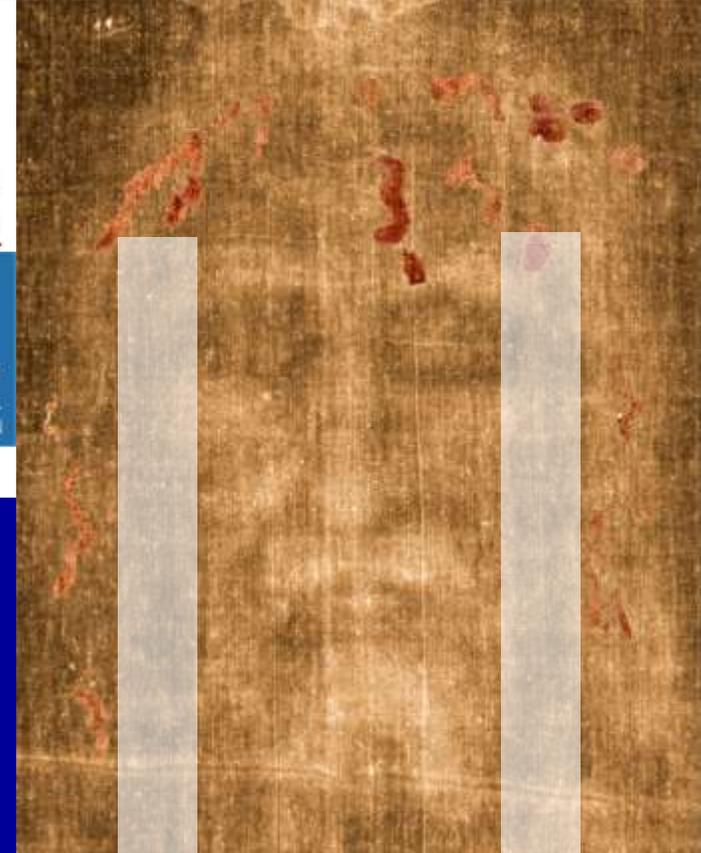


SHROUD OF TURIN 2025 INTERNATIONAL CONFERENCE & SYMPOSIUM



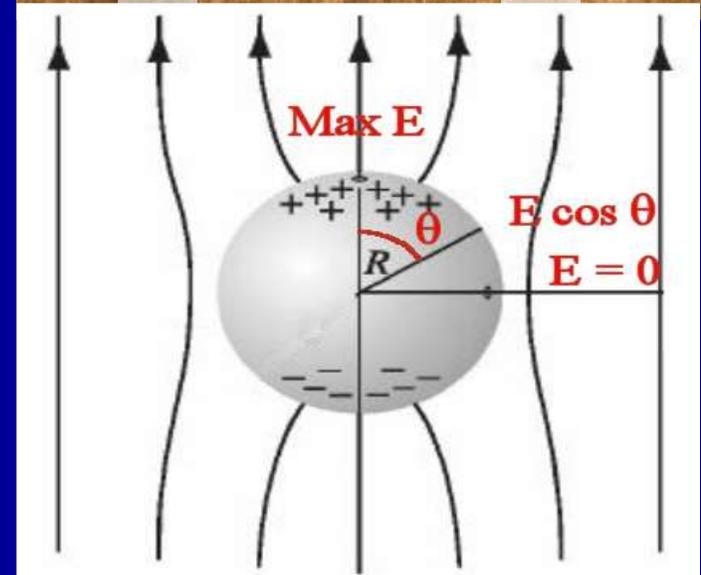
July 30 – August 3, 2025 Augustine Institute St. Louis, MO United States



Prof. Giulio Fanti of Padua University, Italy

Presentation #2

Holy Shroud: Corona Discharge to explain the unique condition of the body image wrapping

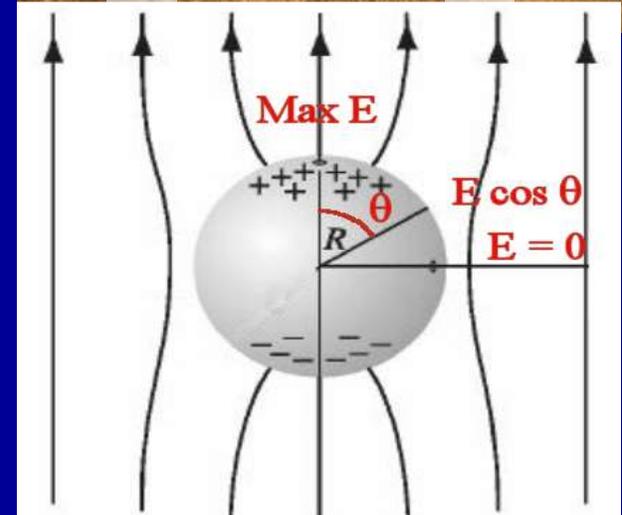
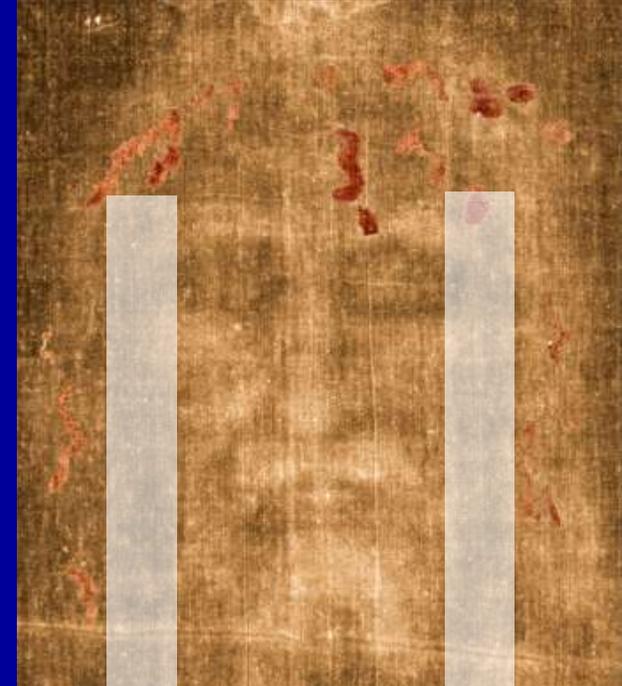


2 - Holy Shroud: Corona Discharge to explain the unique condition of the body image wrapping

In the hypothesis of image formation due to an intense electric field, a single wrapping is proposed to explain both bloodstains and body image.

The study develops according to the following points.

- Various body image formation hypotheses
- Divine photography and Holy Fire
- Double wrapping configuration (G. Lavoie)
- Proposed single tight wrapping
- Effects of corona discharge
- Effect of cosine law
- Experimental results
- Mathematical model
- Simplified calculation
- Conclusion



2 – Unique wrapping condition of the body image: **Synthesis of past hypotheses of body image formation**



**CONTACT -
HEAT**
Delfino Pesce

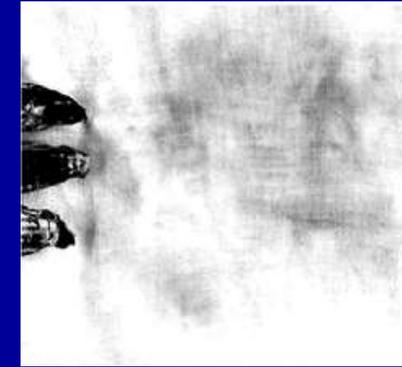


CONTACT
blood, urea, sweat,
... M. Moroni



**CONTACT -
ACIDS**
J. Nickell

RADIATION
Excimer laser
Baldacchini



**GAS
DIFFUSION –
MAILLARD**
R. Rogers

RADIATION
Corona Discharge
Judica Cordiglia

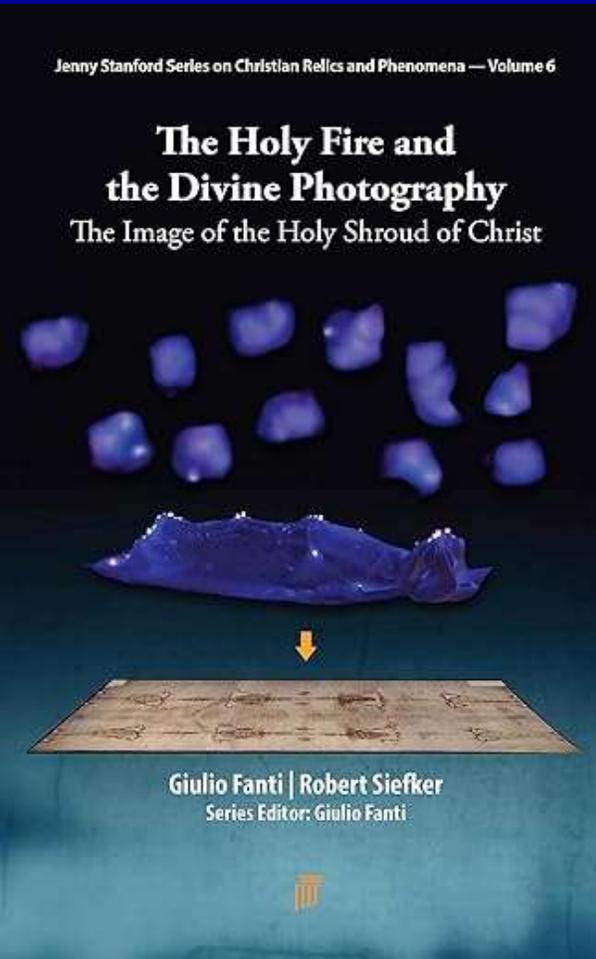


RADIATION
Jesus mechanically transparent
J. Jackson



2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping**

THE DIVINE PHOTOGRAPHY HYPOTHESIS – Holy Fire 1



The HS wrapped for 30-40 hours the body of Jesus Christ in the Sepulcher. An oily mixture of myrrh and aloes, spread around the corpse, was mixed with urea exuded from the cadaver.

SUBSTRATE REAGENTS

Urea, hydrolyzed by Corona Discharge (CD), produced amines. Sugars from the aloe and myrrh were absorbed by the polysaccharides of the flax fibers.

ENERGY

During the Resurrection, there was something similar to the Holy Fire and an intense electric field (measured by A. Volkov in the H. Sepulcher) generated a CD. Jesus became materially transparent and the HS collapsed under the gravity onto the sepulchral stone.

The electric field produced electrons, that hit the linen fibers, producing selectively localized chemical reactions on the fibers.

This phenomenon produced the Divine Photography”.

2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping**

Hypothesis on the Holy Fire origin – Holy Fire 1a

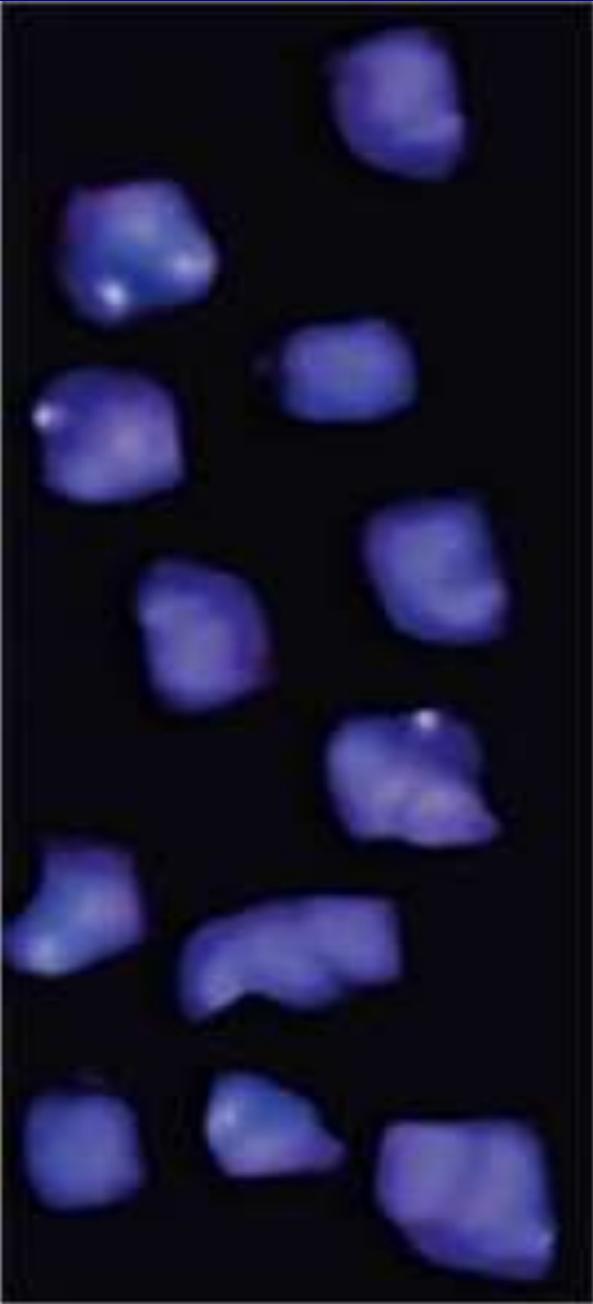
Possible explanation of the Holy Fire (by Adriano Marin, an expert in nuclear radiation)

A blue light or cold flame, due to intense electric field (measured by the Russian Andrey Volkow) could be a Cherenkov light (emission of visible light caused by the electrons crossing a fluid or plasma with speeds greater than that of light in the same fluid).

In a neutron flux, the radioisotopes emit beta (electrons) and gamma radiation (photons).

The beeswax of candles hit by neutrons breaks down into methane and/or propane gas and other molecules.

The electric discharges ignite (Cherenkov light) the bubbles of flammable gas mixed with air, but without generating hot fire due to its rarefaction.



2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping**

THE DIVINE PHOTOGRAPHY HYPOTHESIS – Holy Fire 2

IMAGE TRANSFER

The directionality of the vertical electric field allowed information relating to the human body to be encoded on the HS.

3-D EFFECT

The chemical reactions that darkened the fibers occurred mostly in the parts of the body in contact with the sheet.

Depending upon the thickness of oily mixture of myrrh and aloes, the concentration of urea varied, thus varying both the darkening and the 3-D effect of the body image imprinted on the HS.

The intensity of chemical reactions in the linen followed the cosinusoidal law of a floating body put in an electric field.



The Holy Fire of Jerusalem is COLD!

2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping** **THE DIVINE PHOTOGRAPHY HYPOTHESIS** – Holy Fire 3



**Experiment of Corona Discharge on a linen fabric using a bronze medal.
An image similar to the HS resulted.**

REACTION

A cold plasma, similar to that of the HF, contains negative ions that produced CD.

Reducing sugars then interacted with amino acids at low temperature (<200 °C) giving rise to defects in the linen fibers due to the Maillard reaction: a latent image resulted on the HS.

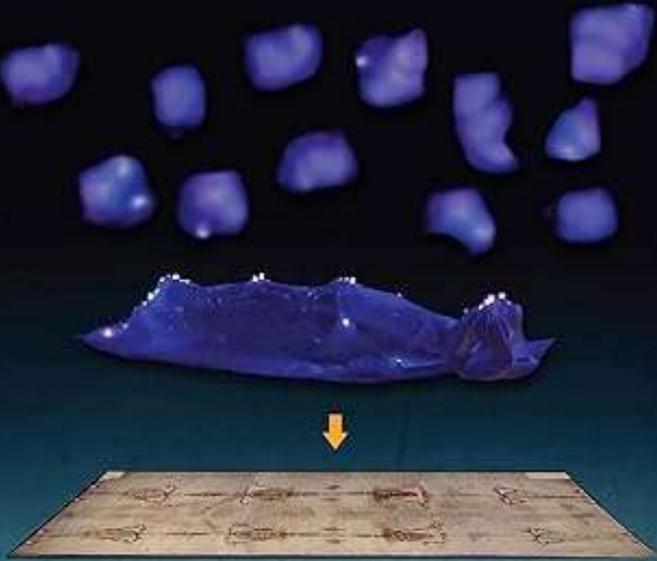
DEVELOPMENT

With time, the chemical defects oxidized and produced a visible image.

2 – Unique wrapping condition of the body image: **Divine photography** **Holy Fire - Corona discharge with Maillard reaction**

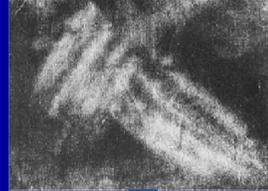
Jenny Stanford Series on Christian Relics and Phenomena — Volume 6

**The Holy Fire and
the Divine Photography**
The Image of the Holy Shroud of Christ



Giulio Fanti | Robert Siefker
Series Editor: Giulio Fanti

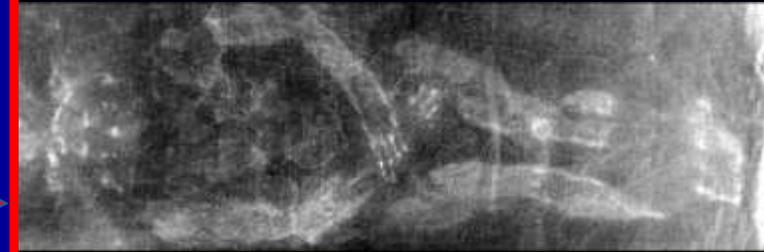
RADIATION
CORONA DISCHARGE
Judica Cordiglia



HOLY FIRE



GAS DIFFUSION -
MAILLARD
R. Rogers



2 – Unique wrapping condition of the body image: **Double wrapping** – G. Lavoie

1) **Tight wrapping** for the bloodstains; 2) **Flat position** for the body image & vertical radiation

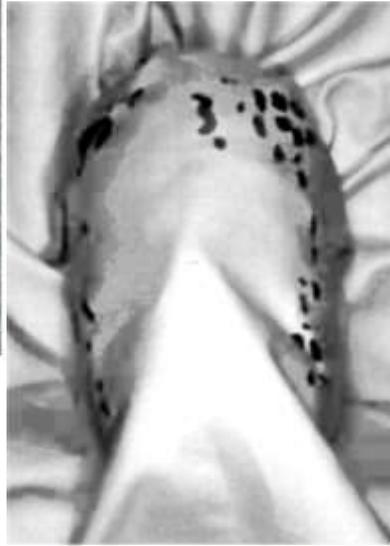
DR. GILBERT LAVOIE

FIRST CONFIGURATION FOR BLOODSTAINS. The HS wraps the face of a man lying on a supine position of burial. The bloodstains we see on the hair of Jesus originated from the moist clots that were on the face covered by the HS.

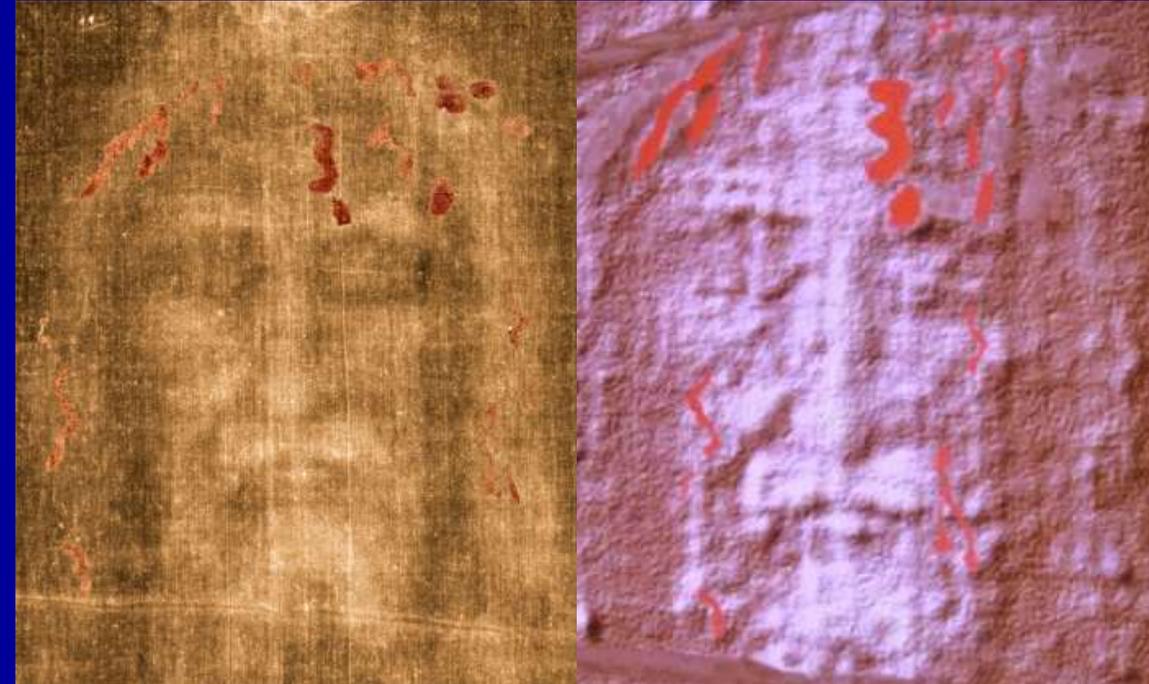


**THE SHROUD
— OF JESUS —**

And the Sign John Ingeniously Concealed



**Cutout of the
bloodstains of a
volunteer's face.**

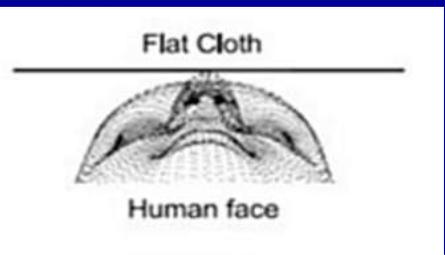
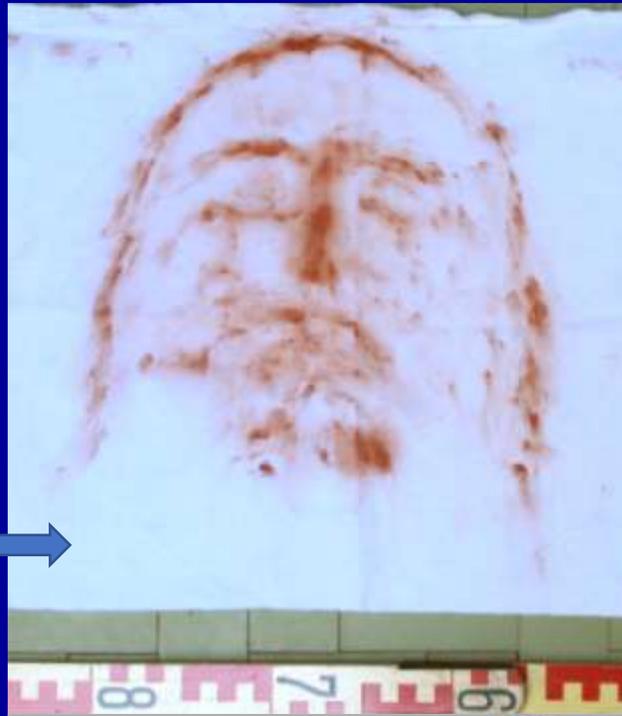


**Possible correction of the bloodstains
position on the HS.**

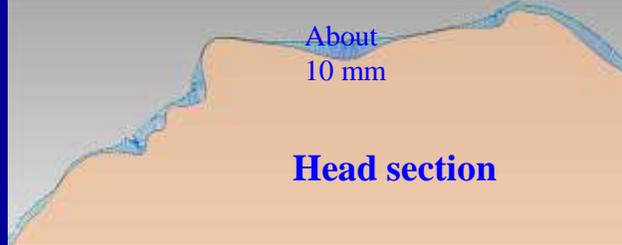


2 – Unique wrapping condition of the body image: **Face wrapping – distortions** – G. Lavoie

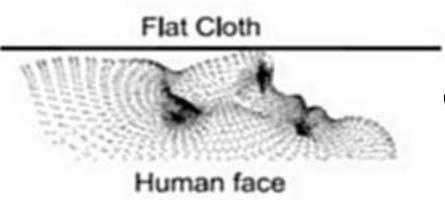
SECOND CONFIGURATION - BODY IMAGE: the HS was almost flat to avoid distortions.



3D face with bloodstains position



Example of distortions: Agamemnon mask



Vertical radiation, HS flat

Sheet wrapping a 3D face: distorted image

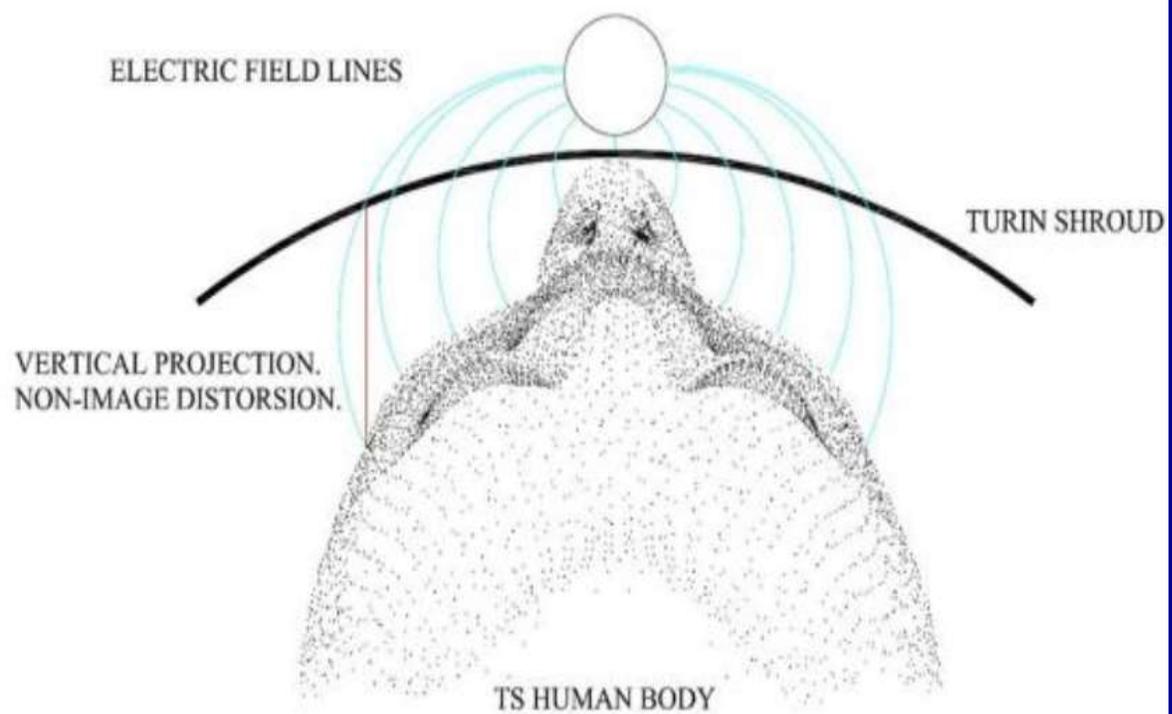
2 – Unique wrapping condition of the body image: Face wrapping - distortions

WORLD SCIENTIFIC NEWS 2022

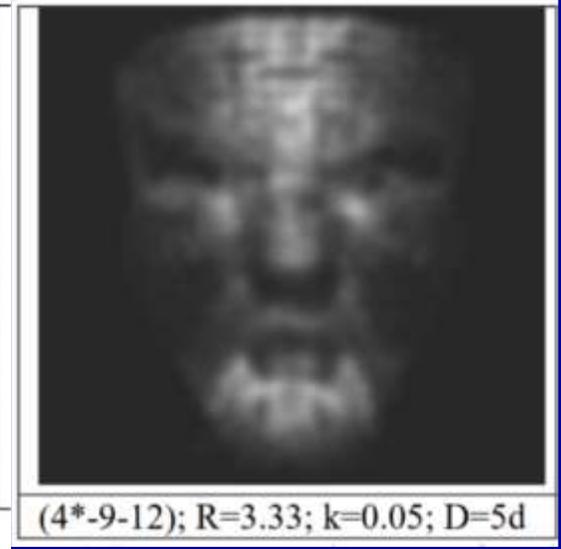
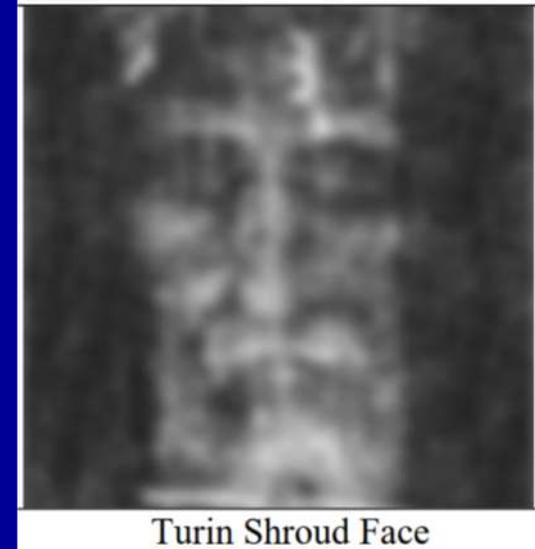
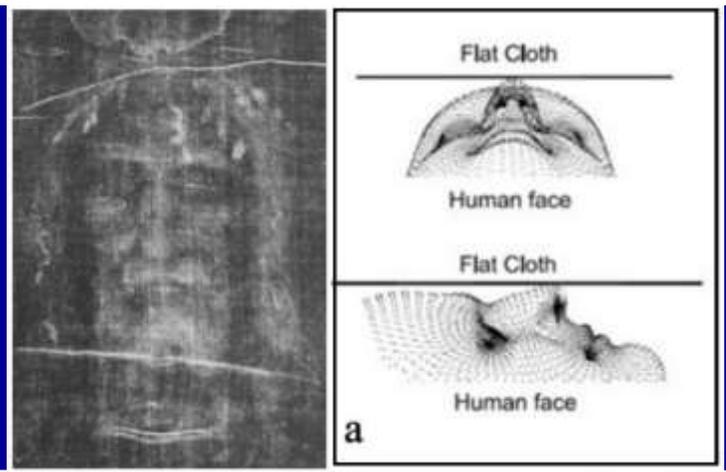
Reverse engineering to study the Turin-Shroud Body-image formation

Authors: Riccardo Campion, Giulio Fanti, 172 (2022) 263-281

PARTICULAR ELECTRODE CONFIGURATION



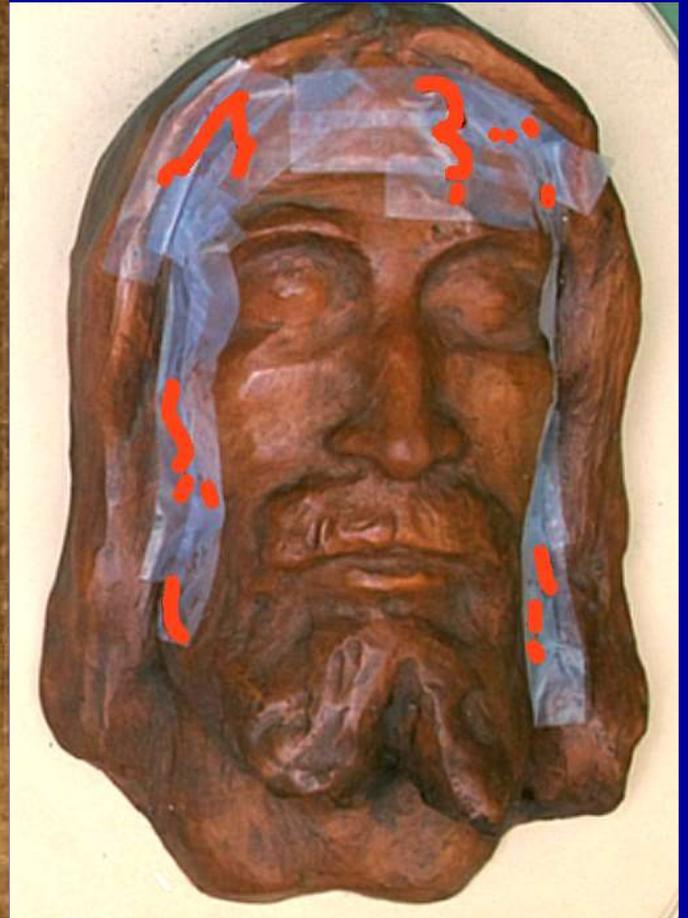
SECOND CONFIGURATION - HS almost flat



Limit: 2 different configurations are strange!

2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping 1**

G. Lavoie: the bloodstains we see on the hair originated from the moist blood clots that were on the face covered by the HS.



Unique configuration - blood: in agreement with Gilbert Lavoie, the **bloodstains** formed in a **tight wrapping of the face**. Those on the hair, correspond to wounds that Jesus had on the **cheeks**. Similarly, at the nape of the neck the bloodstains due to the crown of thorns transferred onto the HS passing through the hair.

2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping 2**



Unique configuration - image: differently from Gilbert Lavoie, the **body image** formed with the same tight configuration of the HS.

2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping** **Soft hair**

The HS image does not show pressed but soft hair because of electrically charged.



Hair disposed along the electric field lines making the hair appear softer. O. Scheuermann is in contact with high-voltage electrostatic field produced by a Van de Graaff generator.



Bloodstains
under the hair.



Soft hair but not
straightened because
tightened by the HS.

2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping**



The hair was close to the cheeks



Many depictions of Jesus appear unrealistic because there was no space between His cheeks and hair.

Unique configuration - image: hair close to the cheeks.

2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping**
(Possible with cosine effect of corona discharge, see later)

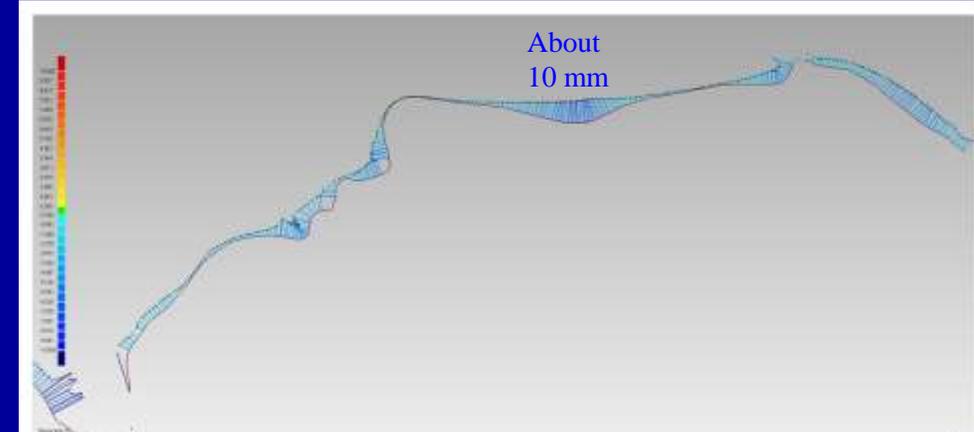
**Hypothesis of face-cloth wrapping of the Turin Shroud Man:
experimental and numerical results**

G. Concheri¹, G. Fanti², S. Rodella³

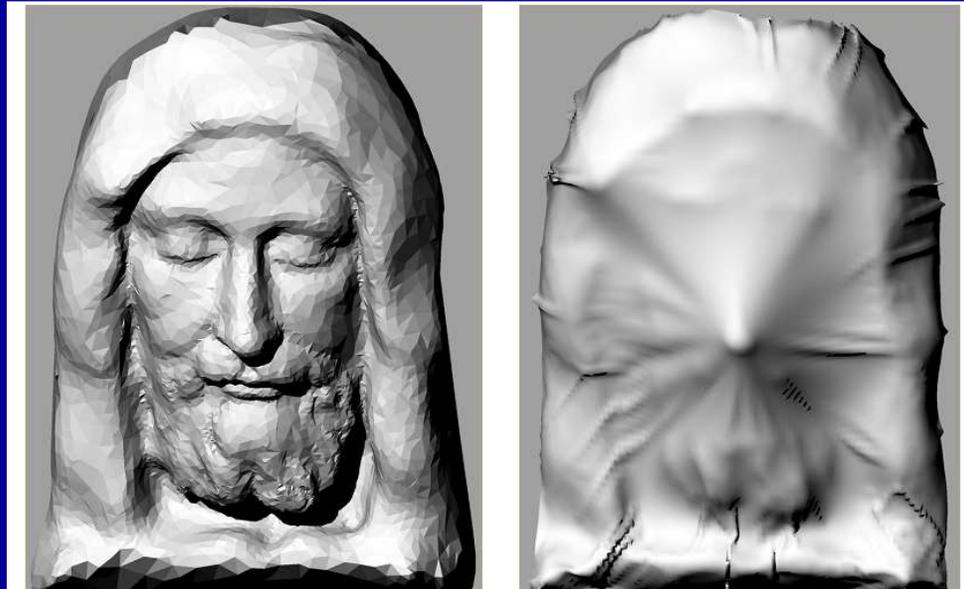
Pasco Shroud Conference 2017



Wrapping configuration of Jesus' face



Model of tight wrapping of face

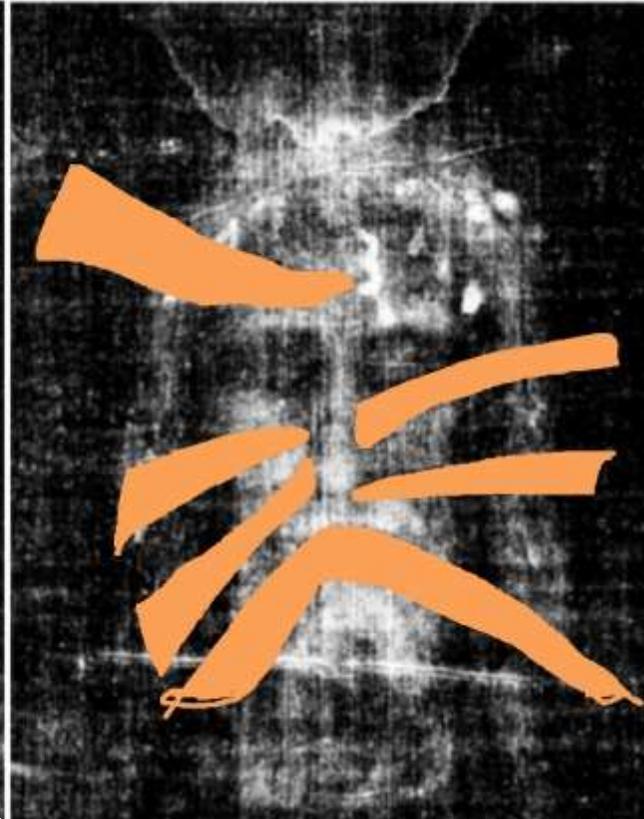


Numerical model of wrapping

2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping Folds**



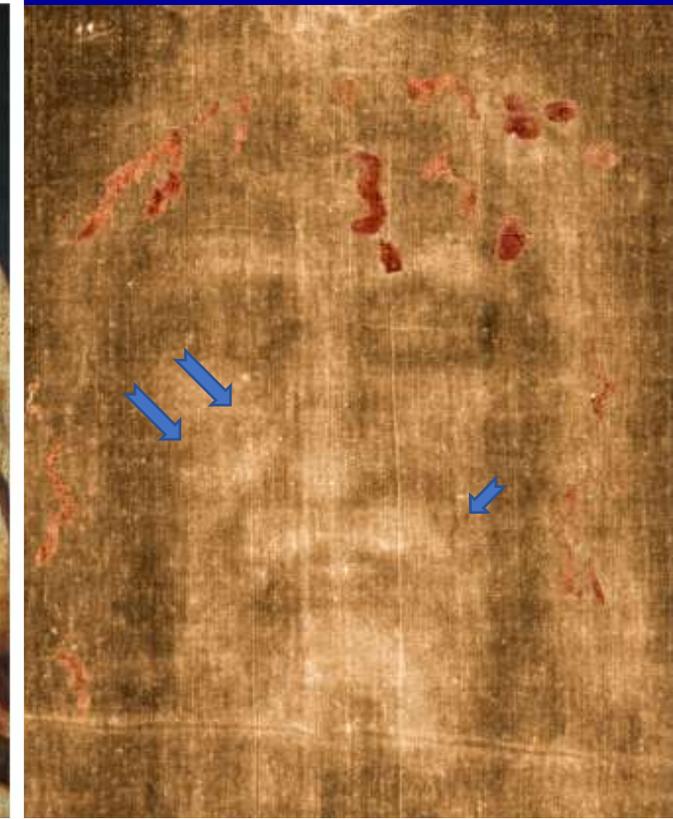
HS face.



Possible folds.



**Experiment:
main folds.**



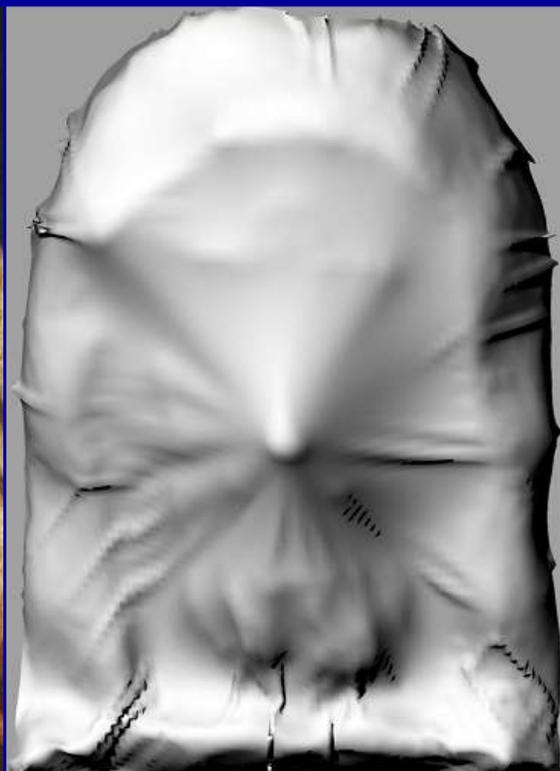
**Main folds
on the HS.**

Confirmation of the tight wrapping hypothesis of the HS face: presence of **folds.**

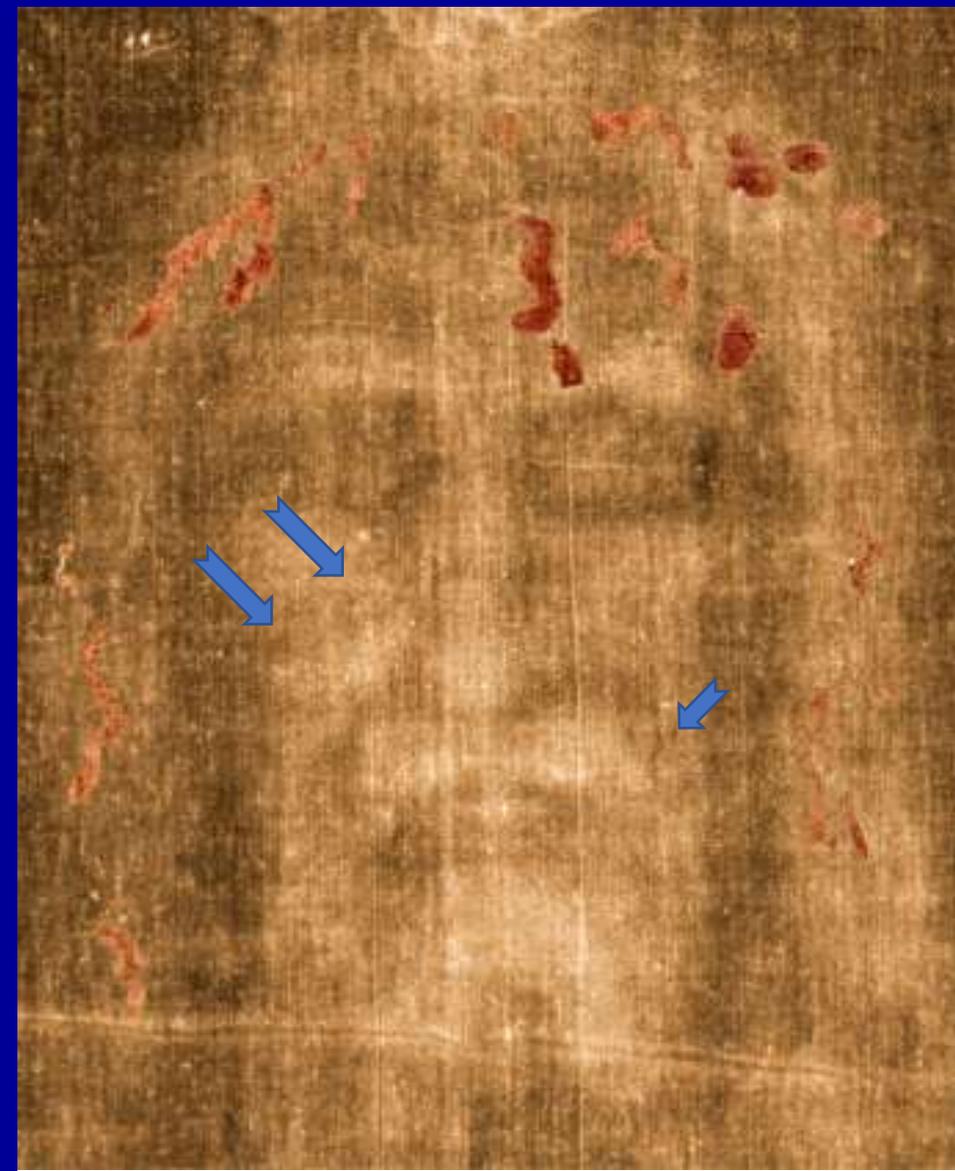
2 – Unique wrapping condition of the body image: Proposed unique tight wrapping



Folds of a dry (rigid) sheet.



Folds of a wet (plastic) sheet



Folds on the HS (wet) with hair

Folds are reduced if the fabric is wet like the HS. Additionally, the folds on the HS are less noticeable because the side hairs reduce the wrapping distortions and make the HS shape more cylindrical.

2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping**

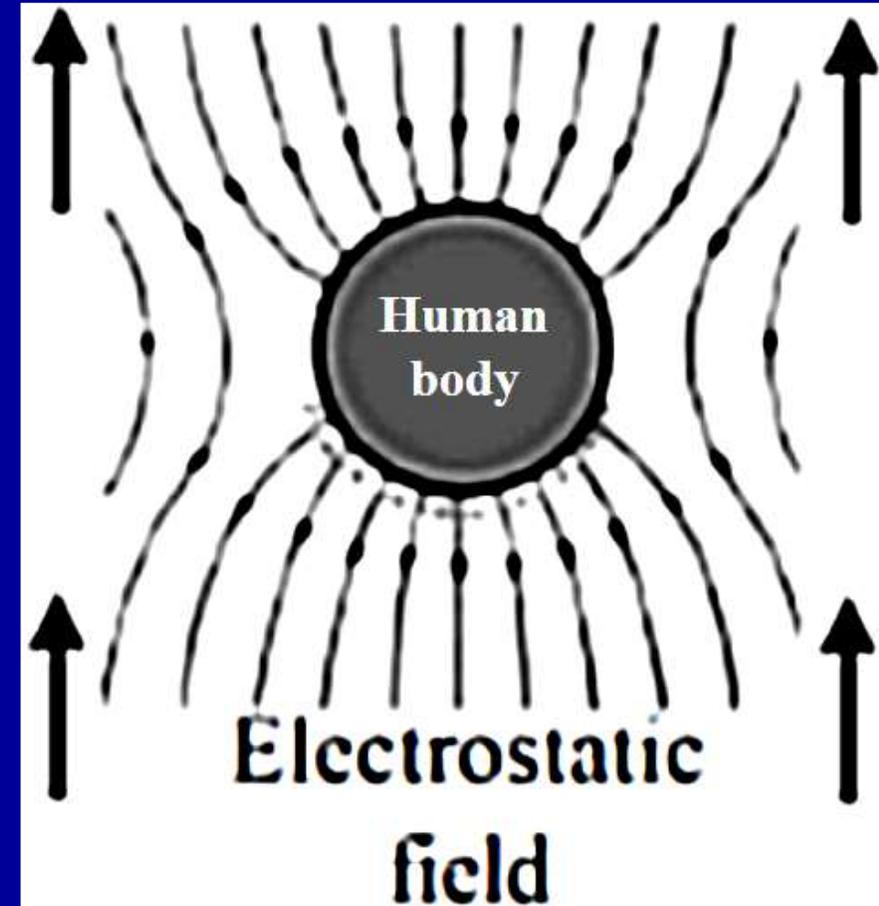
Corona discharge – electric field – cosine effects

The bloodstains were transferred to the HS during the about 30 hours of wrapping, while the body image was formed later (on Easter Sunday during the Resurrection).

Formation of the body image

The **Body** of Jesus wrapped in the HS is **floating** in a very intense **vertical exogenous electrostatic field**.

The sweaty **Body** is considered a **cylinder conductive and ungrounded**.



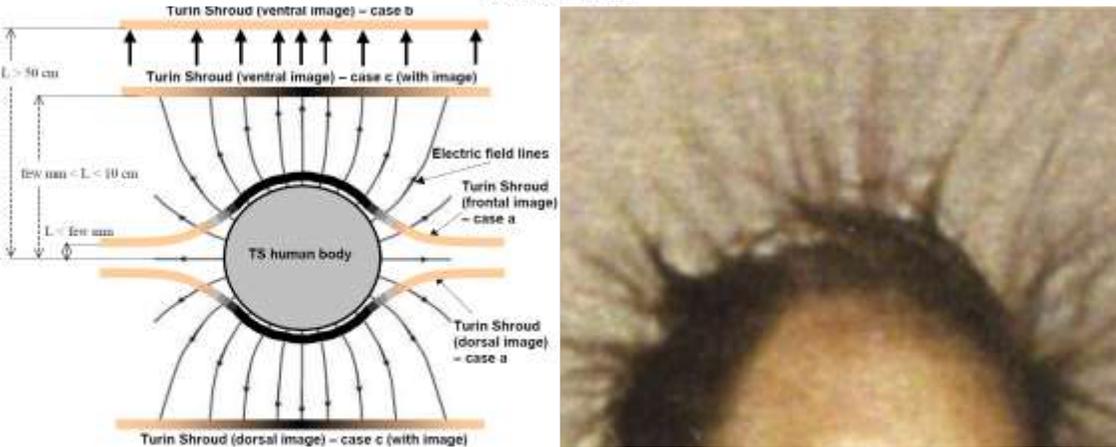
2 – Unique wrapping condition of the body image: Proposed unique tight wrapping

Corona discharge – electric field – cosine effects

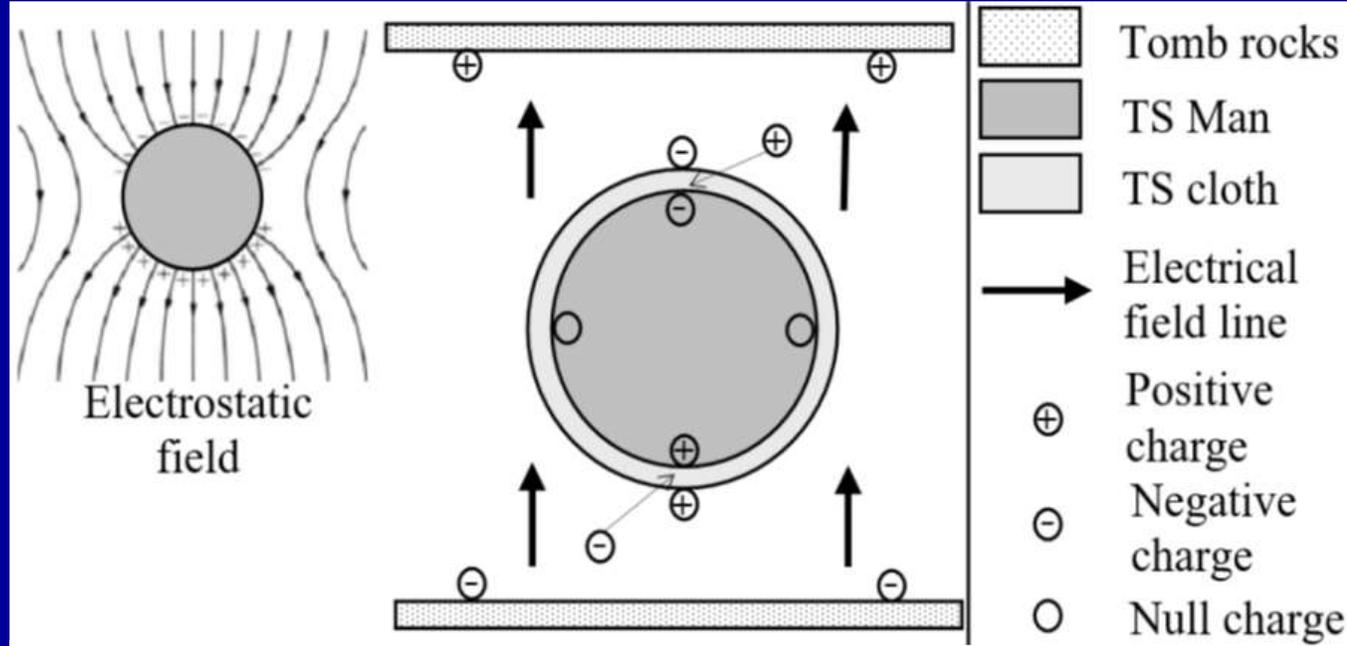
INTERNATIONAL CONFERENCE ON THE SHROUD OF TURIN "PERSPECTIVES OF A MULTIFACETED ENIGMA": COLUMBUS - OHIO AUGUST 14-17, 2008

BODY IMAGE FORMATION HYPOTHESES BASED ON CORONA DISCHARGE: DISCUSSION

Giulio Fanti

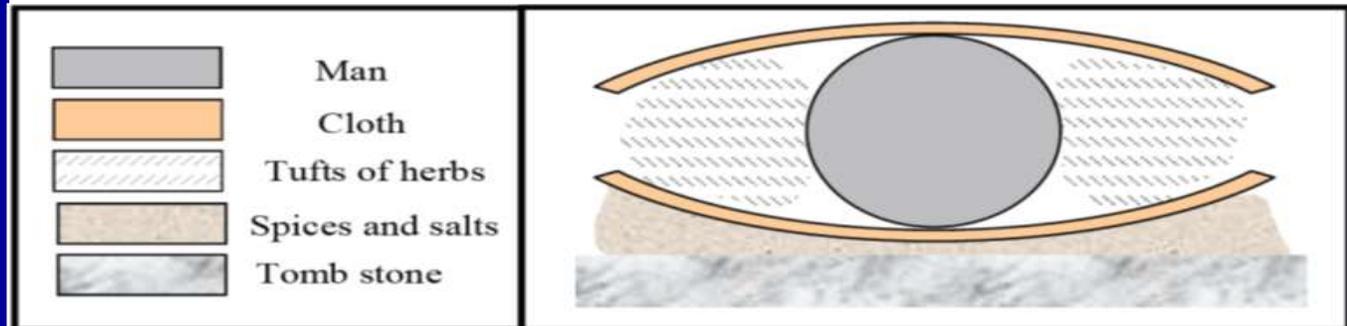


First hypothesis then discarded: human body generating an electric field.



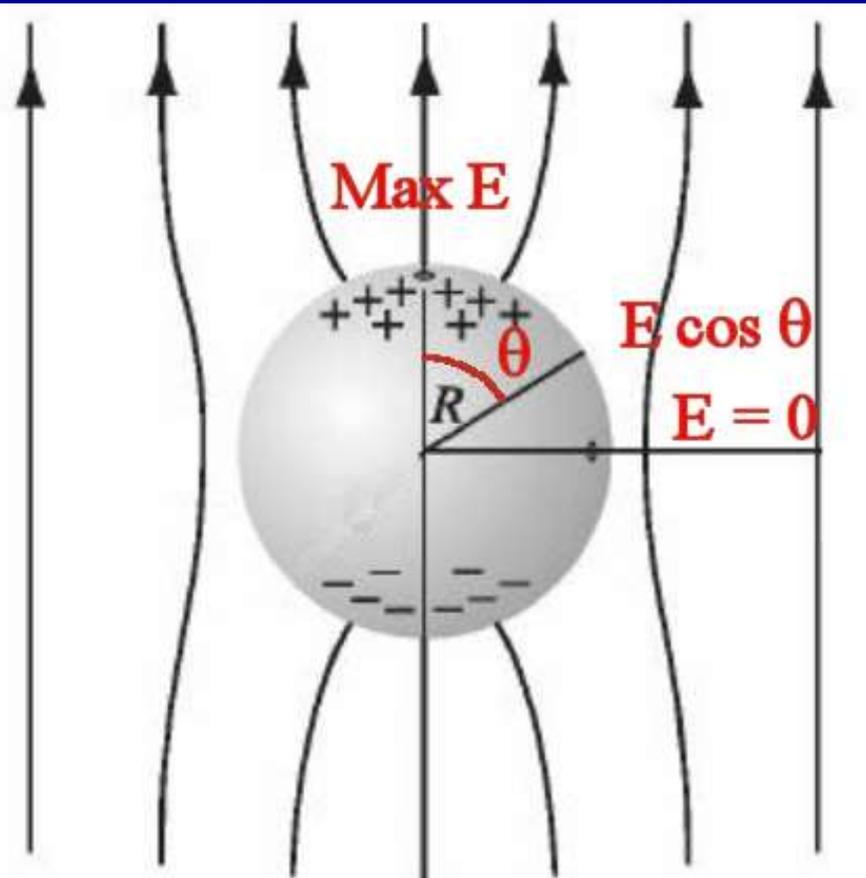
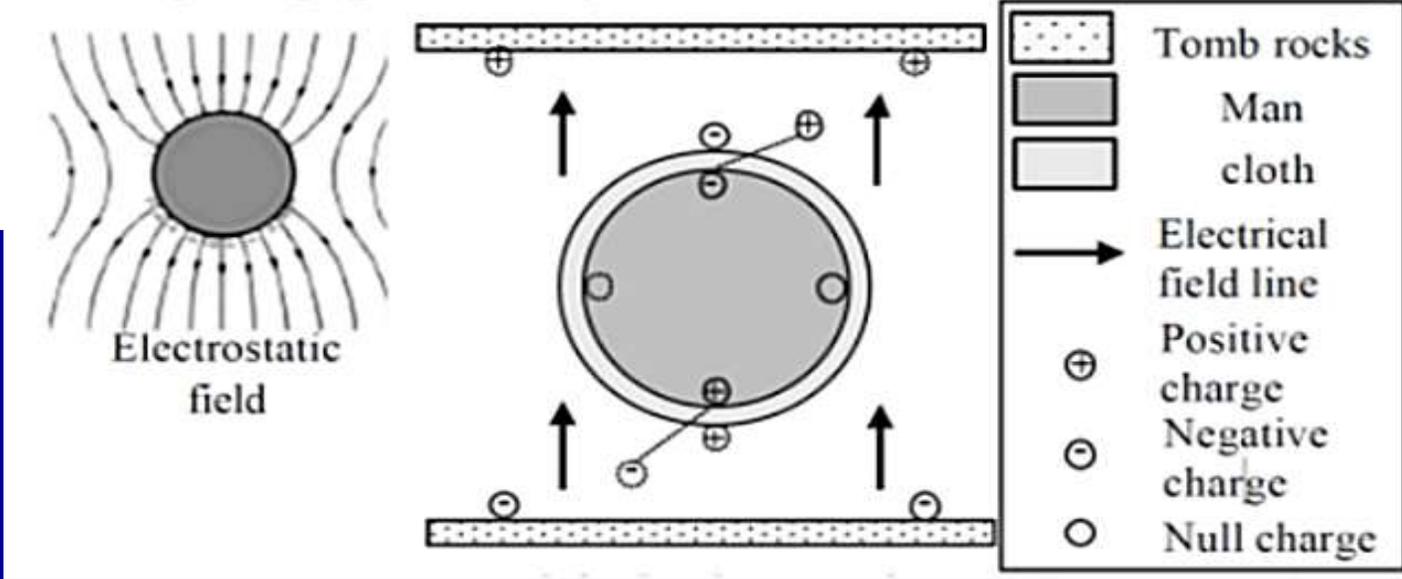
Second hypothesis more reliable: human body floating in a vertical electric field.

Configuration of the human body wrapped in the HS.



2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping**
Corona discharge – electric field – cosine effects

The body of Jesus is considered a **conductive cylinder** floating in a **vertical exogenous electrostatic field**.



The luminance level of the body image L is proportional to the electric field $E(\theta)$.

$$L = h E \cos \theta ; \quad (h \text{ is a constant}).$$

The surface electric field magnitude $E(\theta)$ is function of $\cos \theta$.
 θ angle refers to the vertical direction.

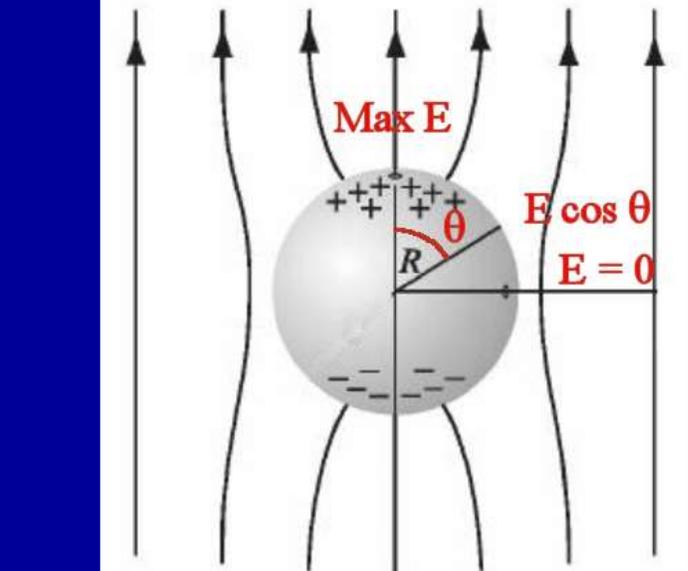
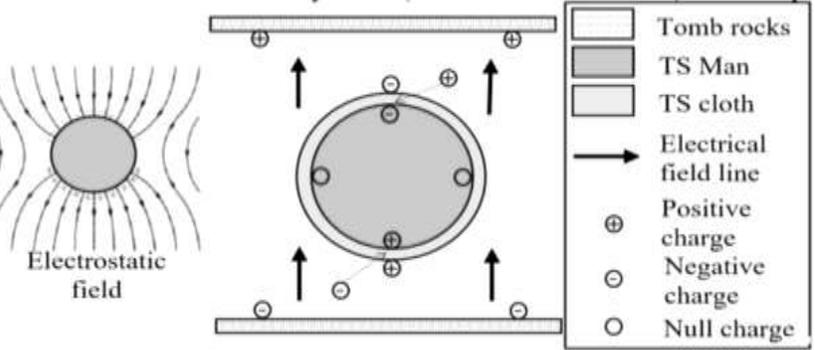
$$Max E(\theta) \Rightarrow \theta=0, \theta=\pi; \quad Min E(\theta) \Rightarrow \theta=\pm\pi/2.$$

2 – Unique wrapping condition of the body image: Proposed unique tight wrapping

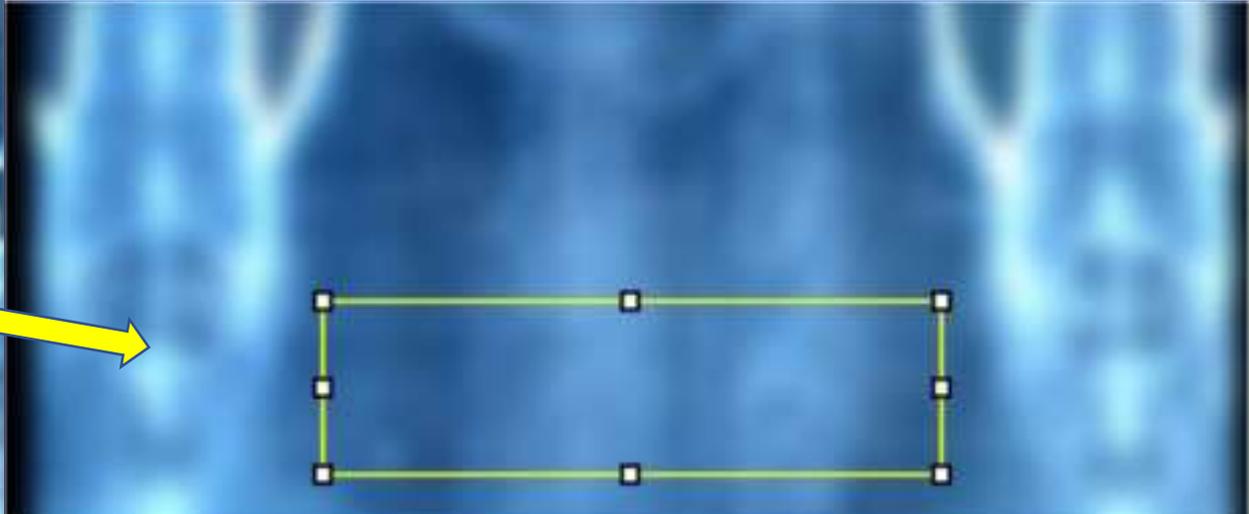
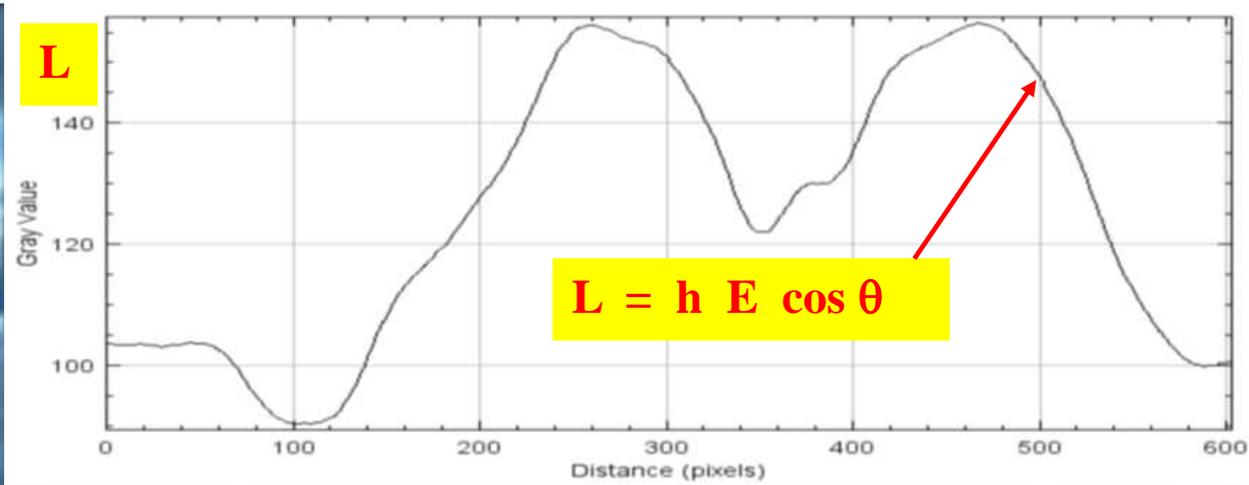
Corona discharge – electric field – cosine effects

THE THIRD DALLAS INTERNATIONAL CONFERENCE
ON THE SHROUD OF TURIN: DALLAS, TEXAS, SEPTEMBER 8-11, 2005
**BODY IMAGE FORMATION HYPOTHESES
BASED ON CORONA DISCHARGE**

Giulio Fanti¹, Francesco Lattarulo², Oswald Scheuermann³

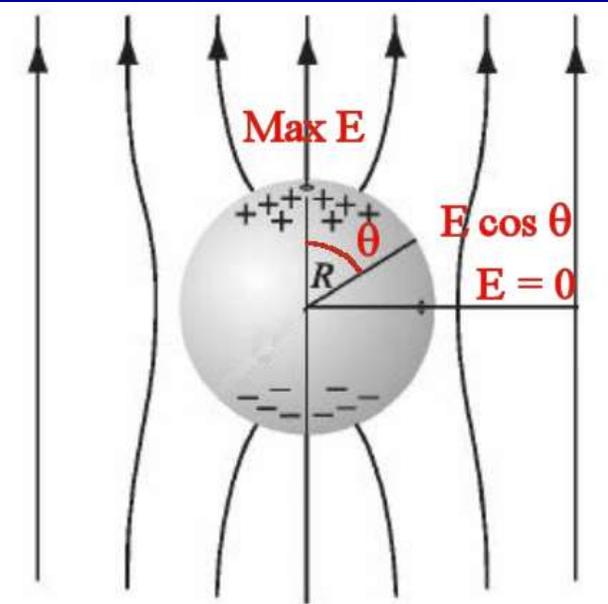


**The floating body is tightly wrapped in the TS. Example:
luminance levels of the HS legs in the yellow rectangle.**



2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping**

Corona discharge – electric field – cosine effects – FACE IMAGE



The luminance is:

$$L = h E \cos \theta$$

Image area

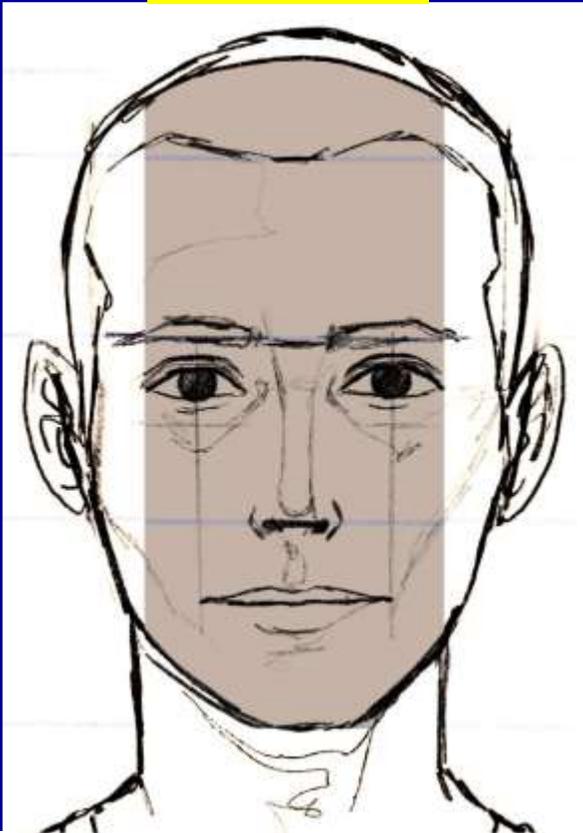
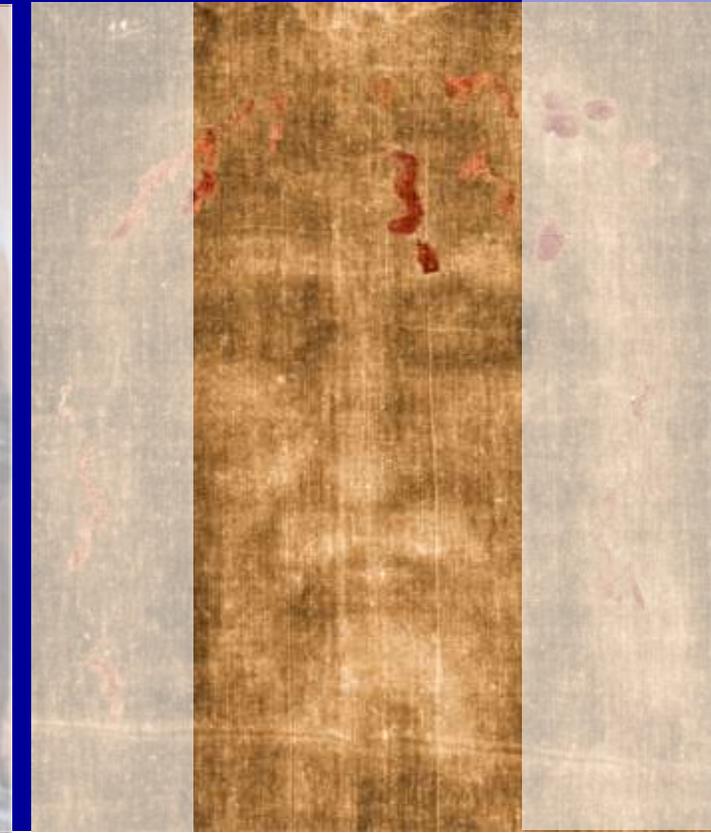


Image area



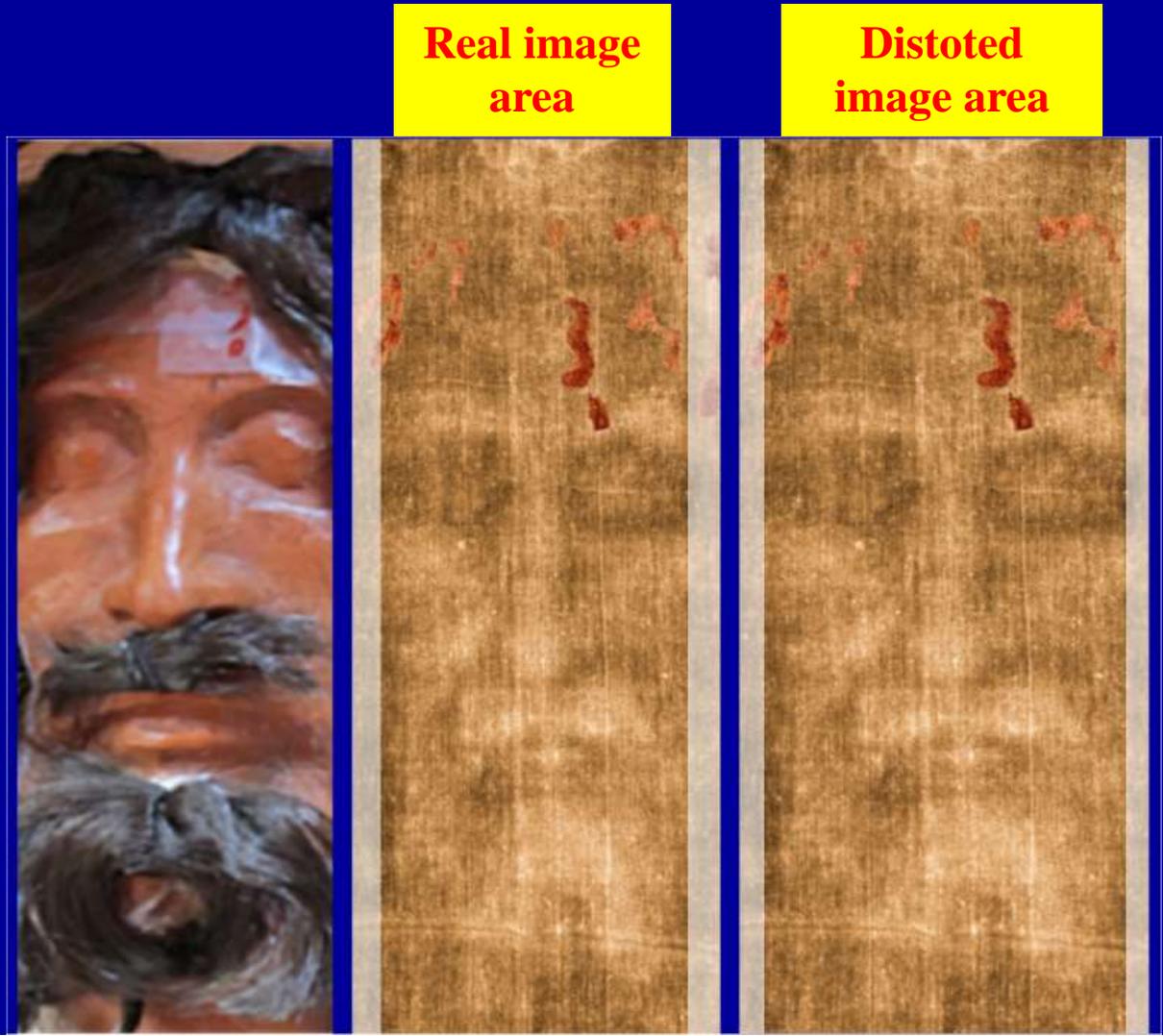
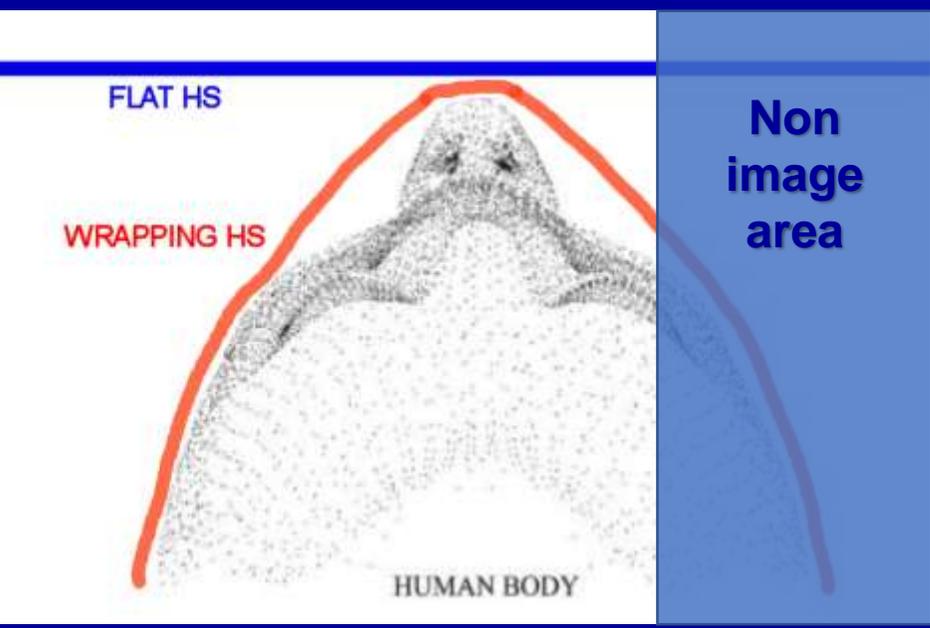
Image area



Threshold effect is a characteristic of the body image, verified experimentally: **for a visible coloration to form on the linen fabric, it is necessary that the intensity of the vector L exceeds a certain minimum quantity** very different from zero.

2 – Unique wrapping condition of the body image: Proposed unique tight wrapping

Corona discharge – electric field – cosine effects – WRAPPING DISTORTIONS



Wrapping distortion: it is little if the image area is relatively small and for the hair presence.

2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping** **Corona discharge – electric field – cosine effects – POINT EFFECT**

The intensity of the vector Luminance ($L = h E \cos \theta$) also varies depending on the shape of the **conductive surface** based on the so-called **Point Effect** (the electric charges on a surface are concentrated where is smaller radius of curvature, i.e. the points).

Sweaty skin, hair, beards and mustaches are conductive surfaces; the last ones are characterized by very small radii of curvature and therefore subject to the Point Effect (intense E and L).



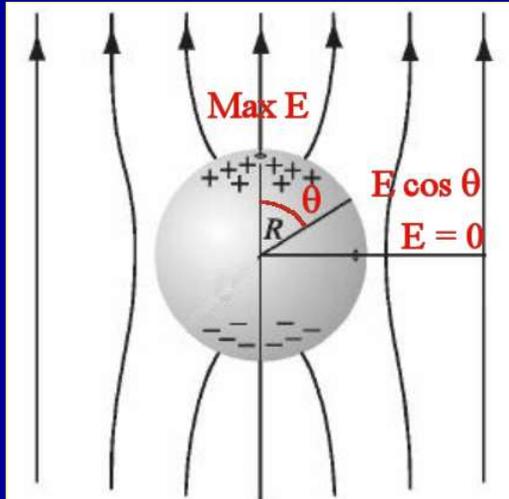
$$\frac{E_1}{E_2} = \frac{R_2}{R_1}$$

E = electric field

R = radius of curvature

CD of a conductive point near a plasma. On the right a plasma ball.

2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping** **Corona discharge – electric field – cosine effects – FACE & HAIR IMAGE**



The luminance is:
 $L = h E \cos \theta$

Image area

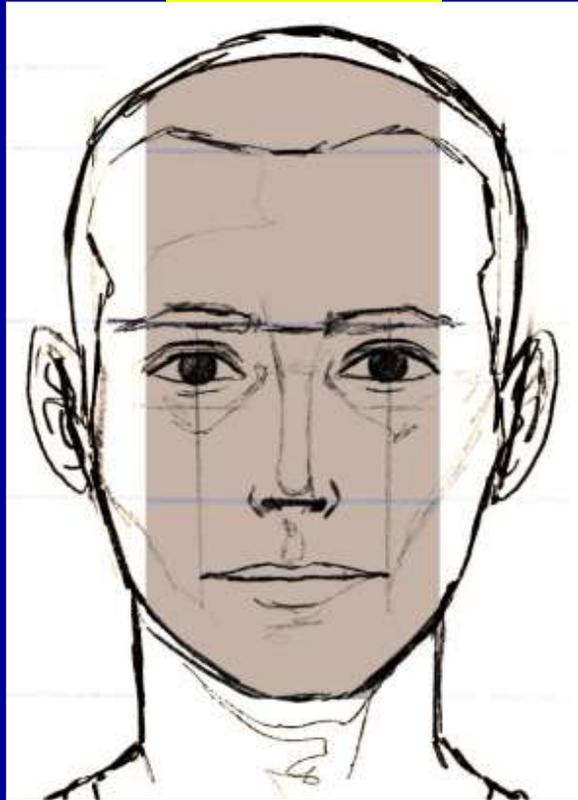


Image area



Image area



Hair area

Hair area

Point Effect on hair or effect on surfaces having small radius of curvature: concentration of electric charges and then of luminance.

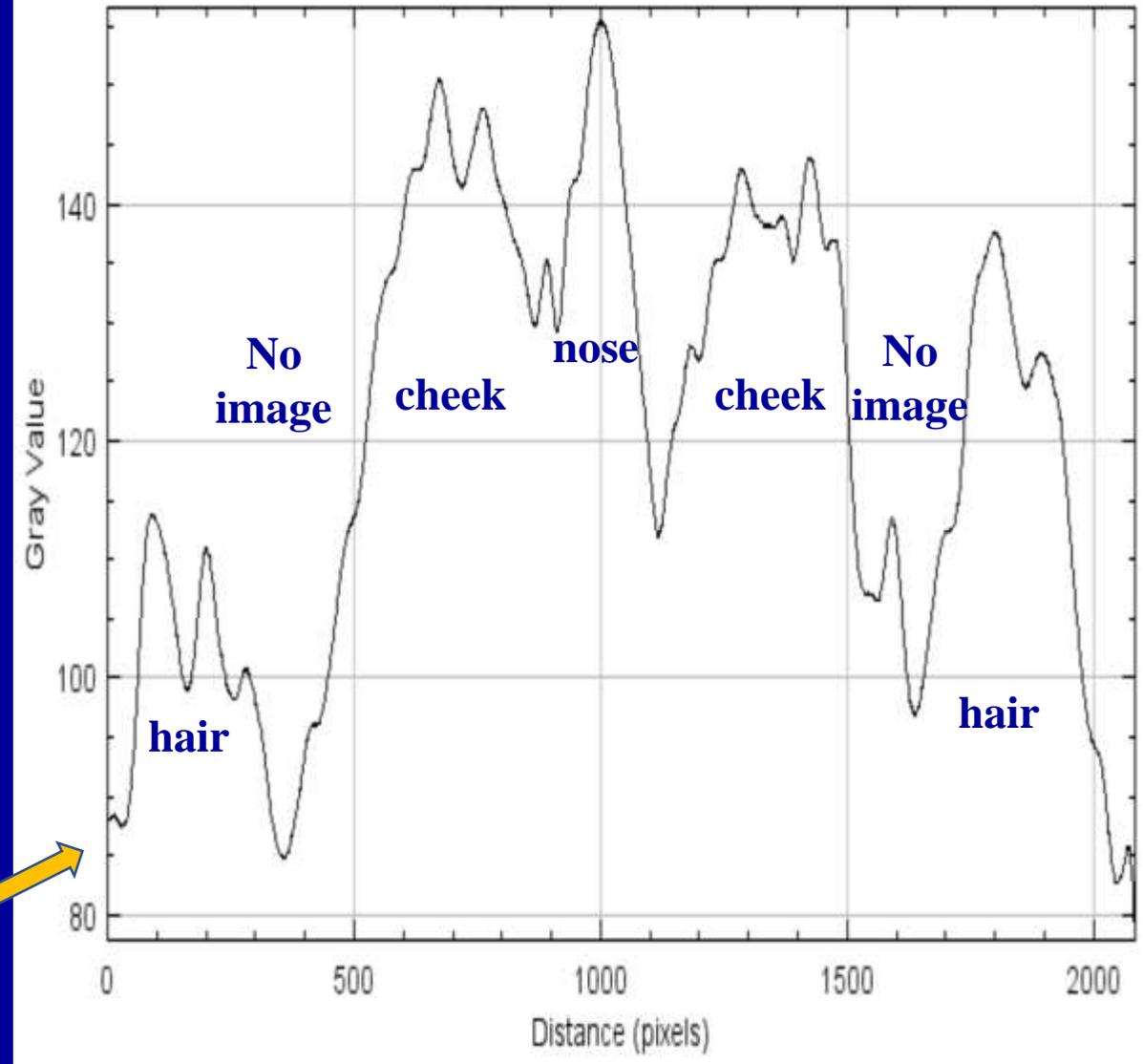
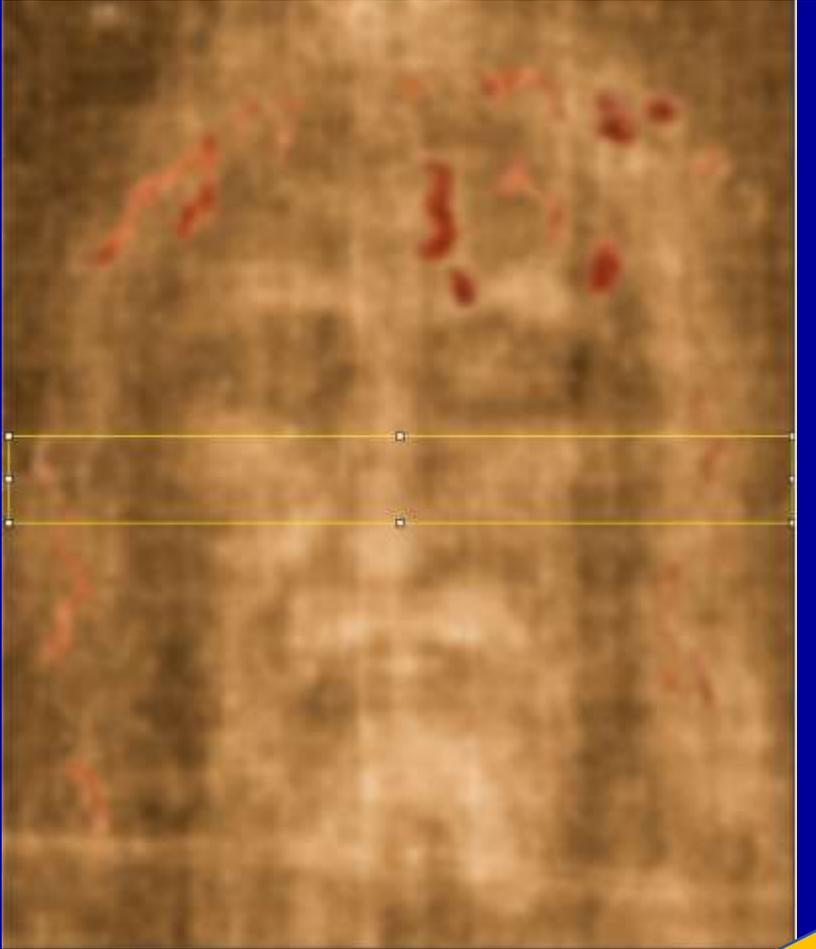


2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping** **Corona discharge – electric field – cosine effects – LUMINANCE LEVELS**

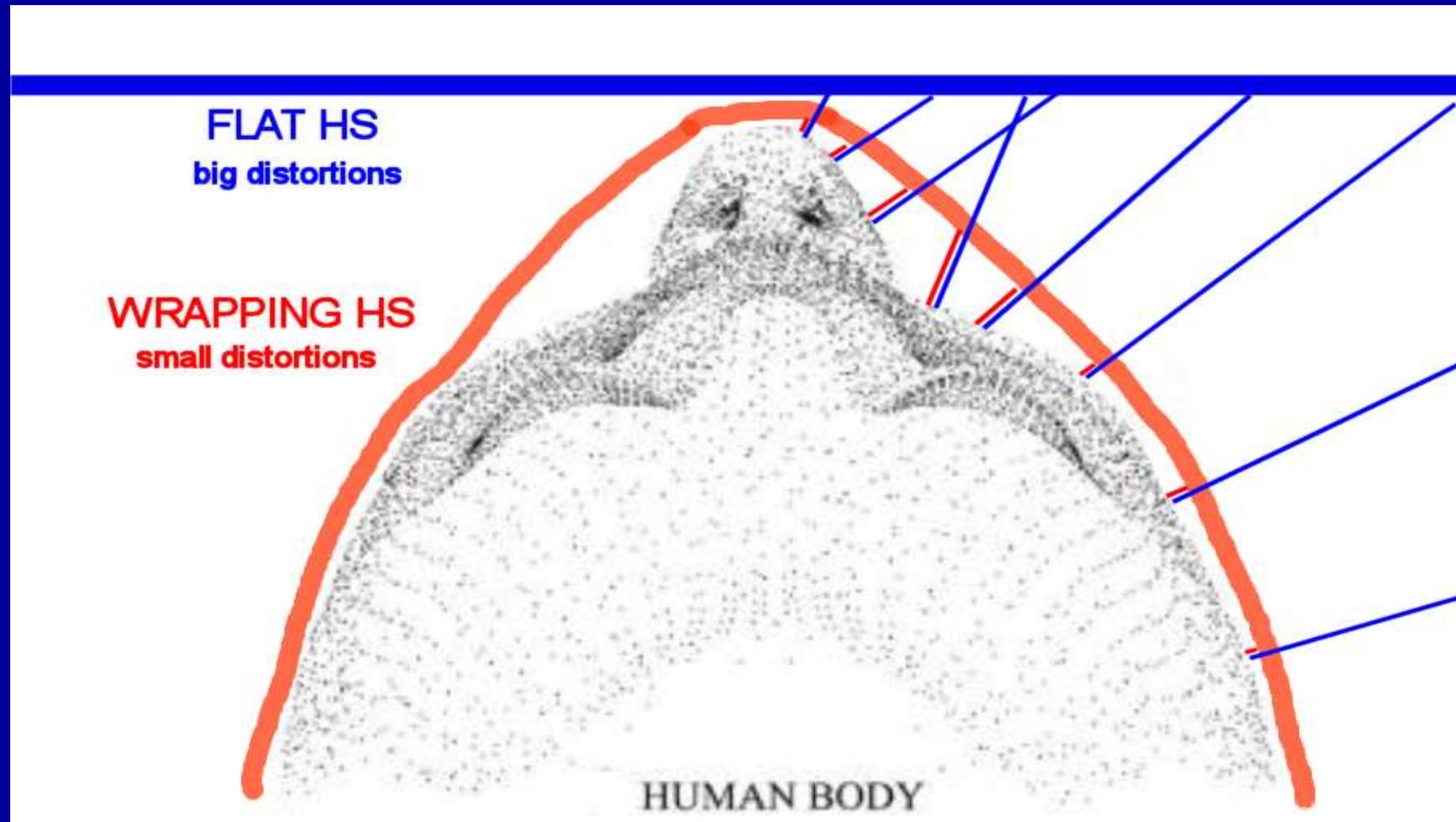
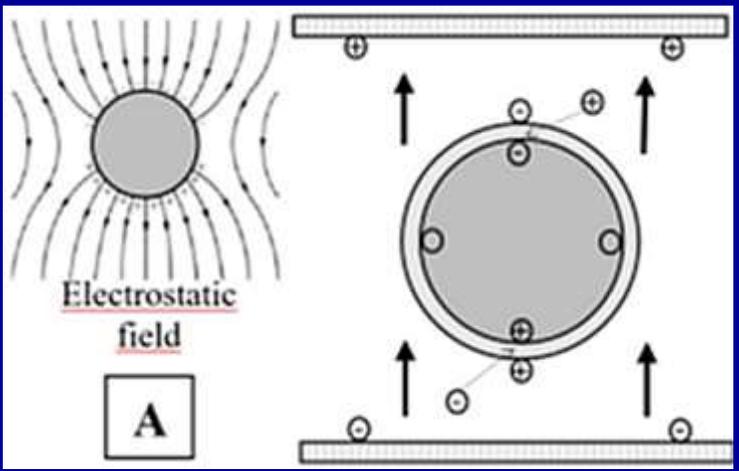
Example: luminance levels of the HS nose-cheeks in the yellow rectangle.



The hair was close to the cheeks



2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping**
Corona discharge – electric field – cosine effects - DISTORTIONS



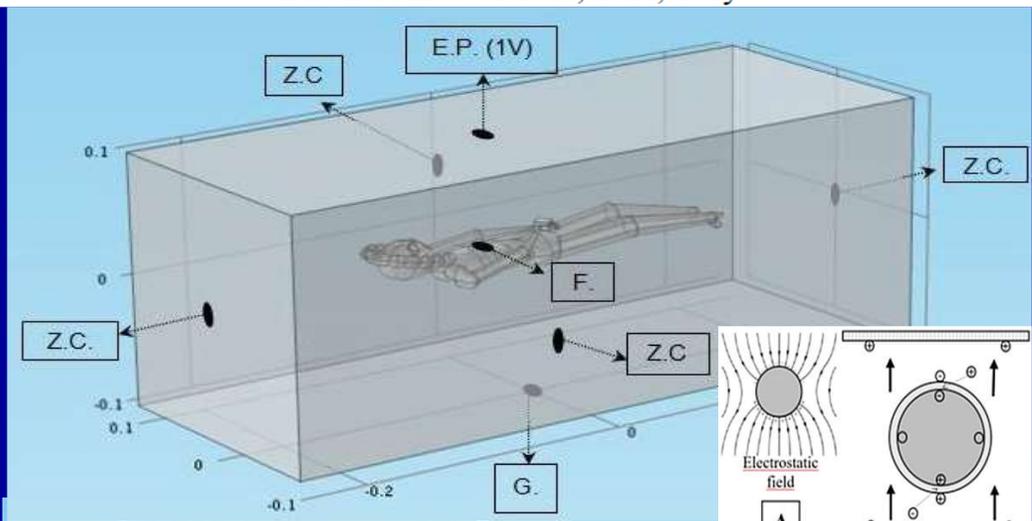
Apart from the wrapping distortions of the HS already discussed, **distortions due to radiation perpendicular to the skin** are negligible if the HS is not flat but it has a tight wrapping because of small body-sheet distance.

2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping** **Corona discharge – electric field – cosine effects – NUMERICAL MODEL**

Numerical Simulation of a Human Body Subjected to Electrostatic Fields for Study of the Turin Shroud Body Image

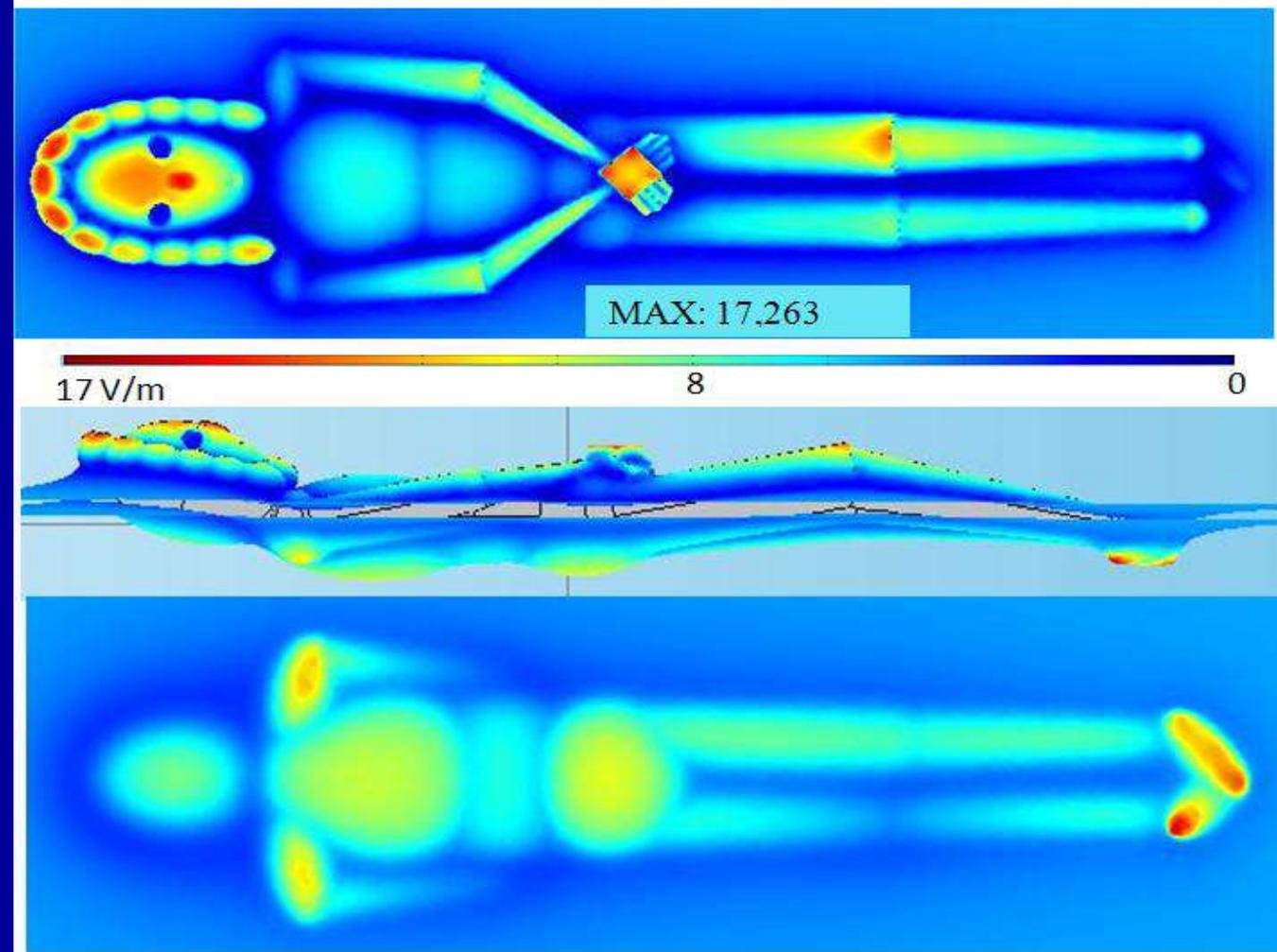
Giulio Fanti¹, Luca Matordes¹, Vitantonio Amoruso²,
 Marco Bullo¹, Francesco Lattarulo², Giancarlo Pesavento¹

1 Dip. di Ingegneria Industriale, Università di Padova, Padova, Italy
 2 Politecnico di Bari, Bari, Italy



E.P. = El. Potential
 F = Floating
 G = Ground
 Z.C. = Zero Charge

Numerical model of a manikin floating in an electric field with conductor positioned on the upper side.



Electrostatic field on an **surface simulating the HS.**

2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping**

Corona discharge – electric field – cosine effects – Luminance

The luminance of the body image therefore depends on the following three parameters:

- 1. Hypothetical body-sheet distance.**
- 2. Inclination of the emitting surface with respect to the local vertical which depends on the cosine of the angle.**
- 3. Amplification caused by the point effect of electric field (or the reduction caused by concavity).**



2 – Unique wrapping condition of the body image: Proposed unique tight wrapping

Corona discharge – electric field – cosine effects / 3D image

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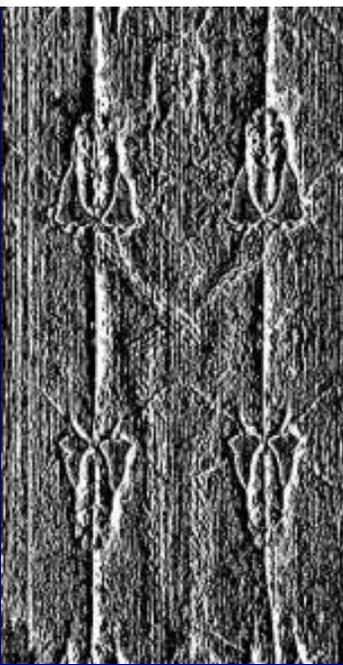
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Artificial Intelligence Analysis of Images of the Shroud of Turin

Thomas McAvooy

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First derivative of the image in the horizontal direction using a Sobel filter: a 3D image results.

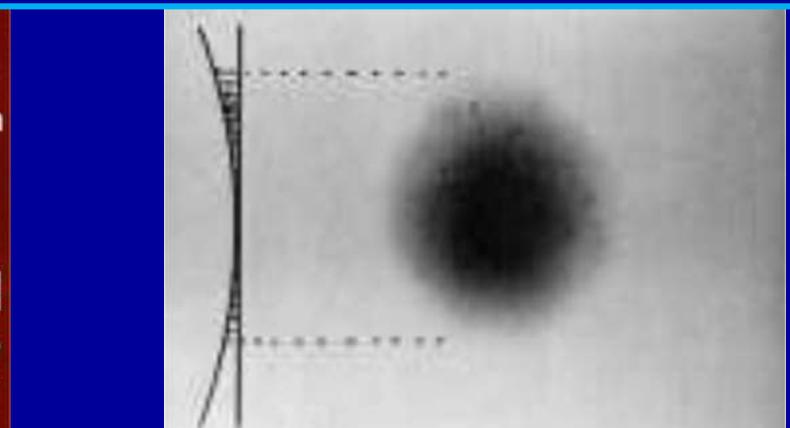
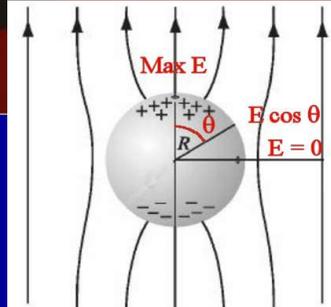
Oswald Scheuermann

Turiner Tuchbild aufgestrahlt?

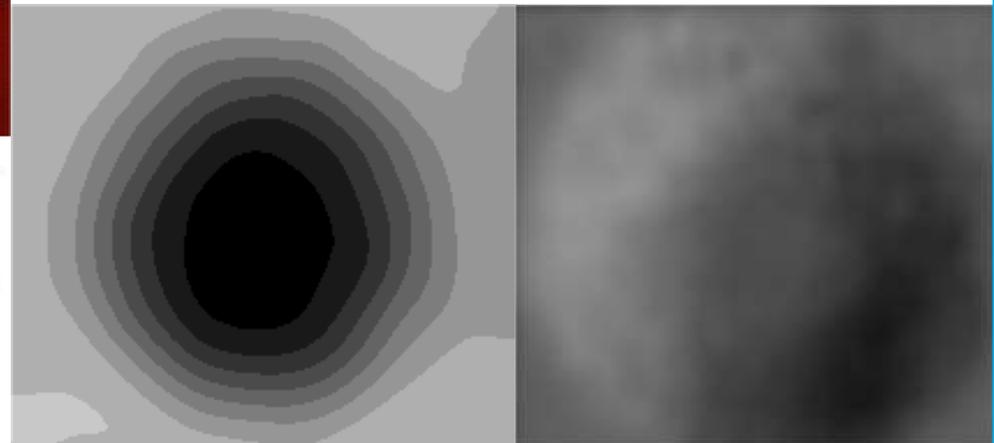
Nachweisversuch

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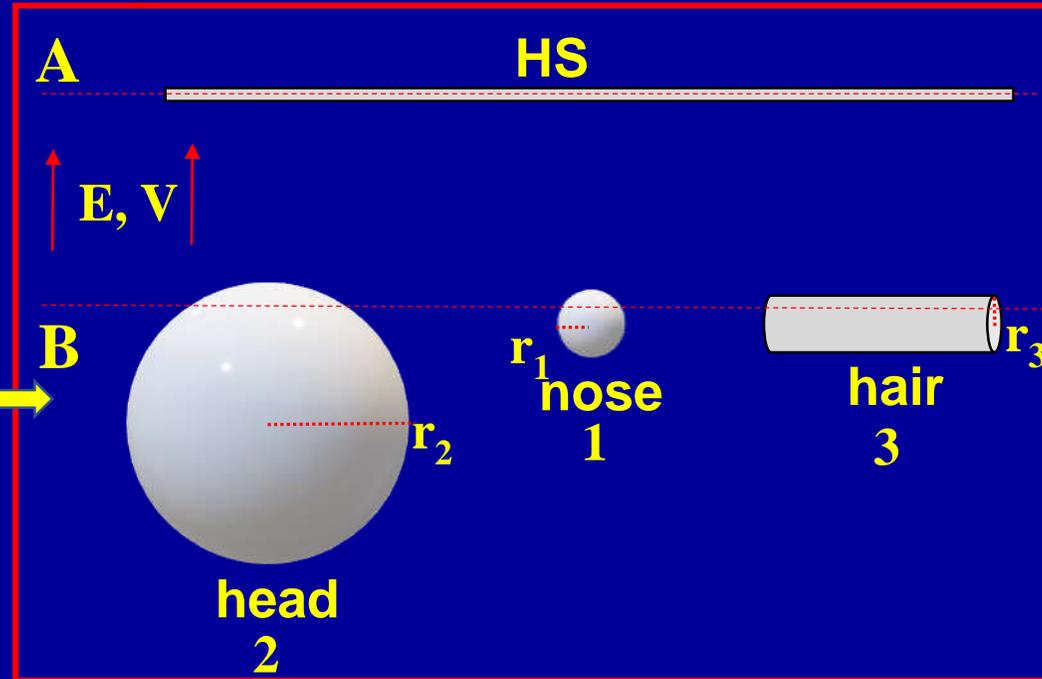
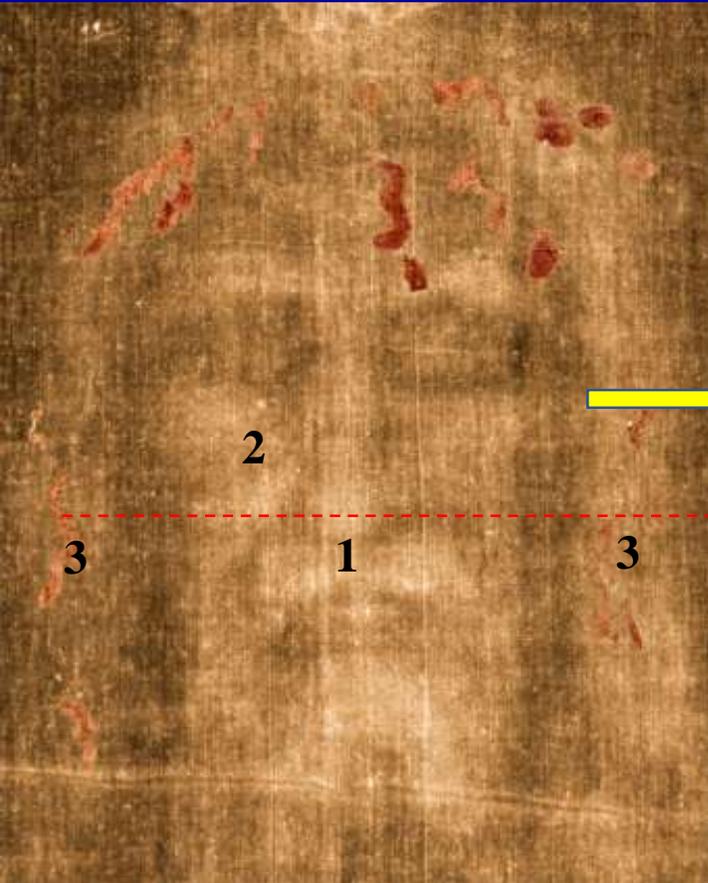


CORONA DISCHARGE: the cosine effect coupled with distance produces a 3D result! (Experiment of O. Scheuermann).



2 – Unique wrapping condition of the body image: Proposed unique tight wrapping

Corona discharge – electric field – cosine effects – Theory



Hypotheses:

- Man floating in an electric vertical field.
- Analysis performed between 2 planes A and B.
- Sweaty head and hair, so electric conductors.
- Approximation of absolute value of the data.
- Zero potential at infinity.

Coulomb's law: an **electric field E** produces an **electric potential V**.

ϵ_0 = dielectric constant of the vacuum; **Q** = electric charge; ρ = charge density = Q/V ; $K=4\pi\epsilon_0$.

Sphere of radius r : $E_{sphere} = \frac{Q}{4\pi\epsilon_0 r^2} = \frac{-Q}{Kr^2}$

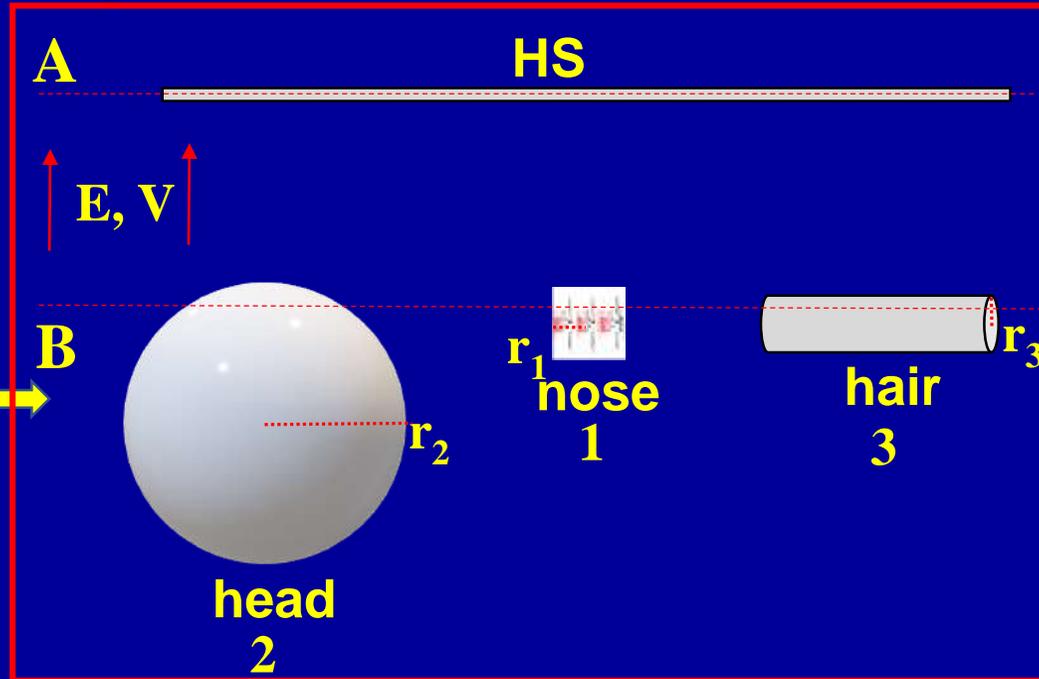
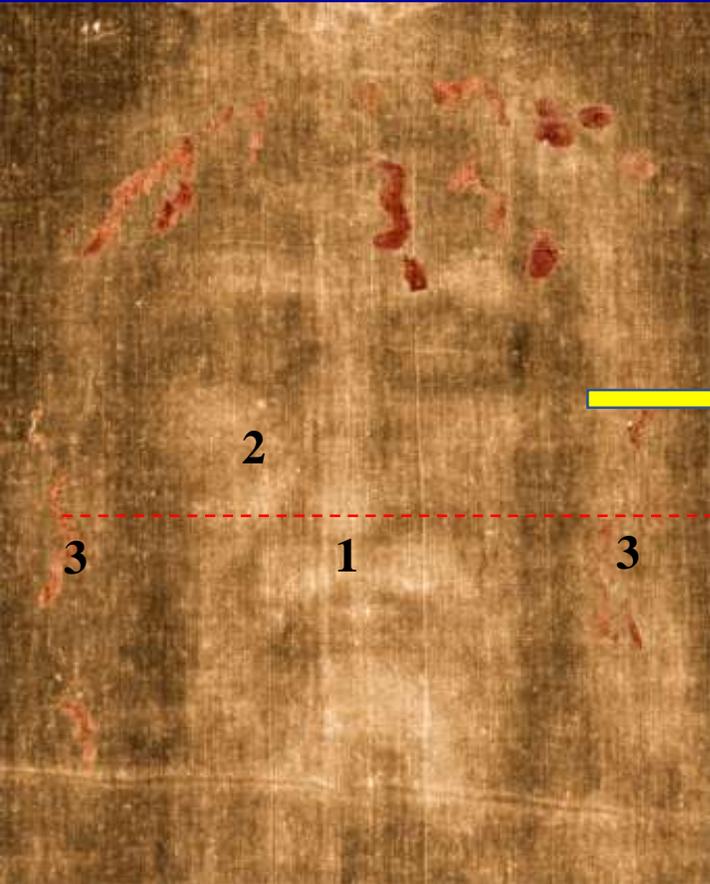
$$V_{sphere} = \int_r^\infty E dr = \frac{Q}{K} \int \frac{1}{r^2} = \frac{Q}{Kr};$$

Cylinder of length **L**: $E = \frac{\rho r}{2\epsilon_0}$; $\rho = \frac{Q}{\pi r^2 L}$; $E = \frac{Q}{\pi r^2 L} \frac{r}{2\epsilon_0} = \frac{Q}{2\pi\epsilon_0 r L}$

$$V_{cilinder} = \frac{Q}{2\pi\epsilon_0 L} \int \frac{1}{r} = \frac{2Q}{KL} \int \frac{1}{r} = \frac{2Q}{KL} \ln r.$$

2 – Unique wrapping condition of the body image: Proposed unique tight wrapping

Corona discharge – electric field – cosine effects – Theory 2



Hypothesis: bodies 1, 2 and 3 are conductive in electrical contact in a vacuum.

The 1, 2, 3 equipotential surfaces (V) are in el. field E ;

The charges Q_1, Q_2, Q_3 are differently distributed on the surfaces.

Sphere 1: $V = \frac{Q_1}{Kr_1}$;

Sphere 2: $V = \frac{Q_2}{Kr_2}$;

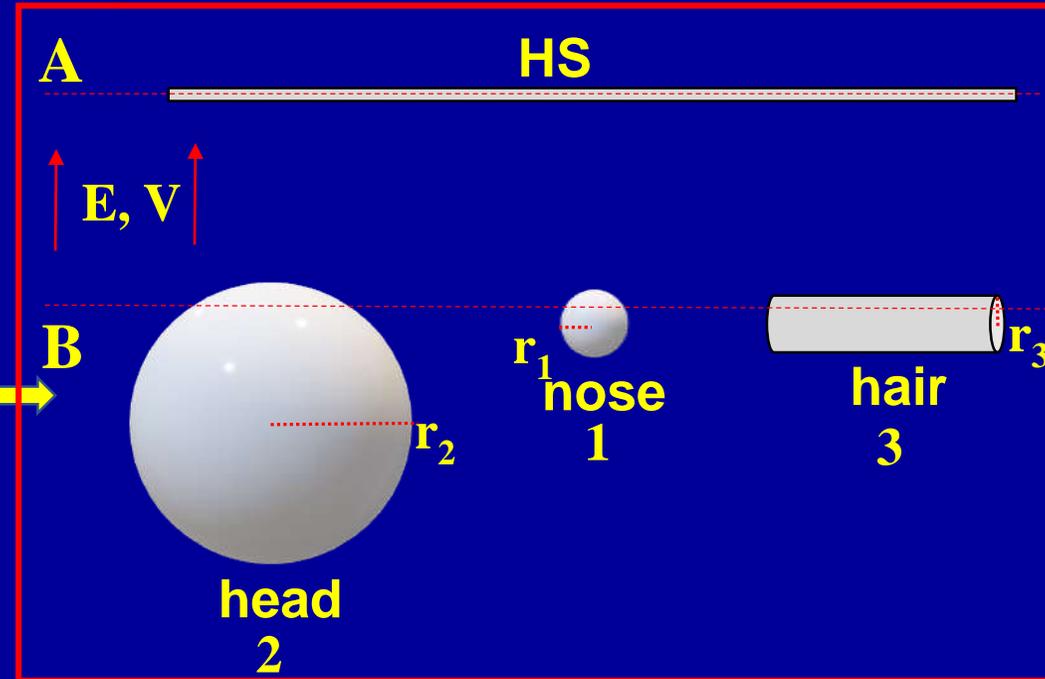
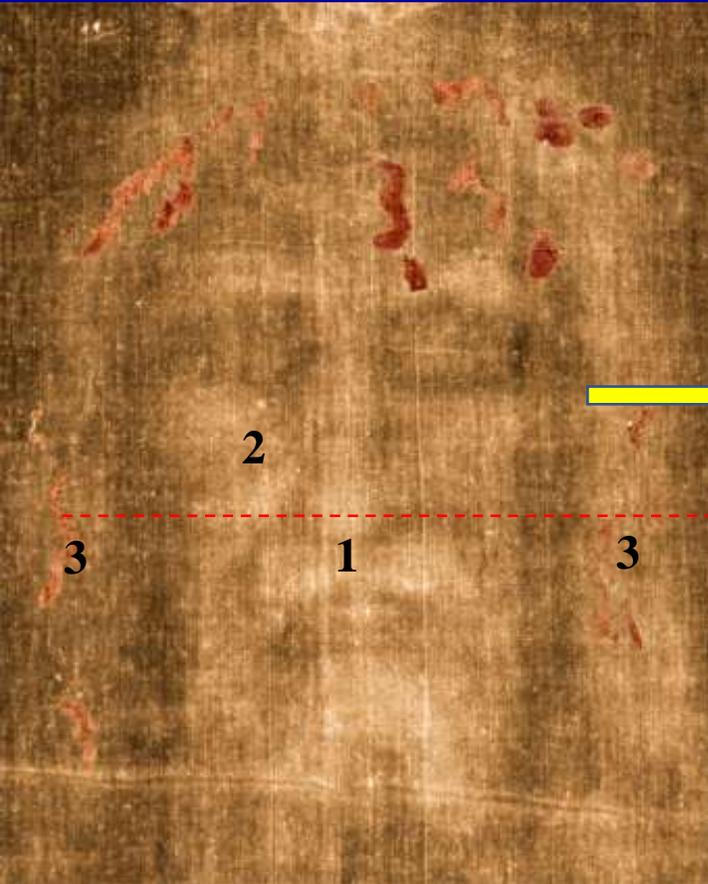
Cylinder 3: $V = \frac{2Q_3}{KL} \ln r_3$

The **electric charge** is distributed along the surfaces proportionally to their respective radii:

$$\frac{Q_1}{r_1} = \frac{Q_2}{r_2} = \frac{2Q_3}{L} \ln r_3 = KV$$

2 – Unique wrapping condition of the body image: Proposed unique tight wrapping

Corona discharge – electric field – cosine effects – Theory 3



The surface charge density σ is

$$\sigma = \frac{Q}{S}$$

Q=charge,
Surface S:

sphere $S=4\pi r_{1,2}^2$
cylinder $S=2\pi r_3 L$

σ is higher if the radius is smaller.

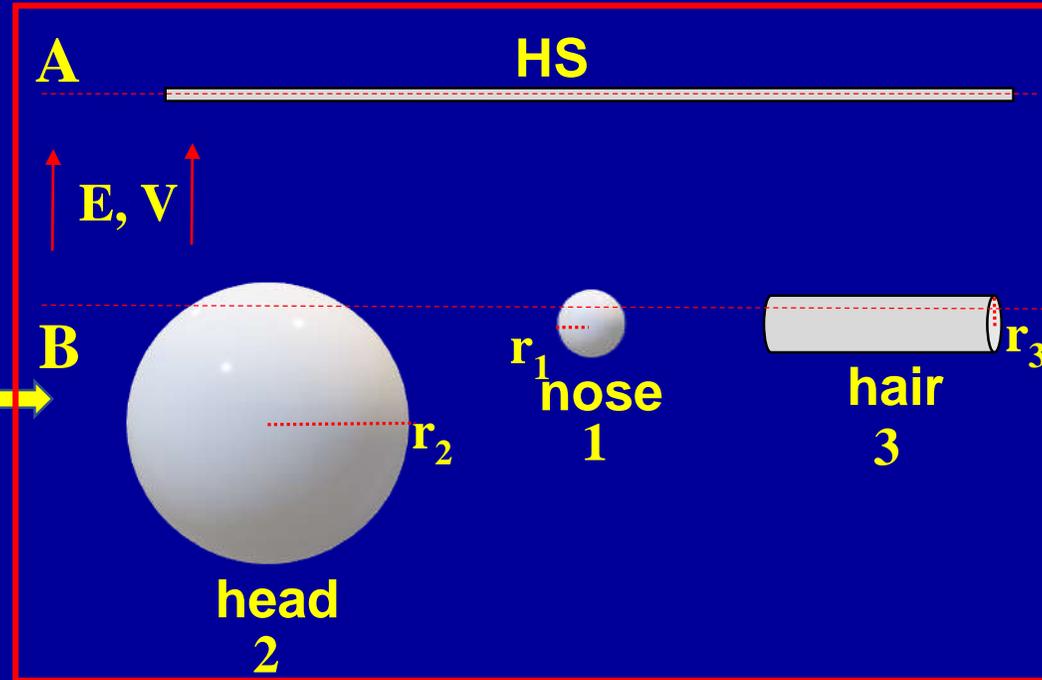
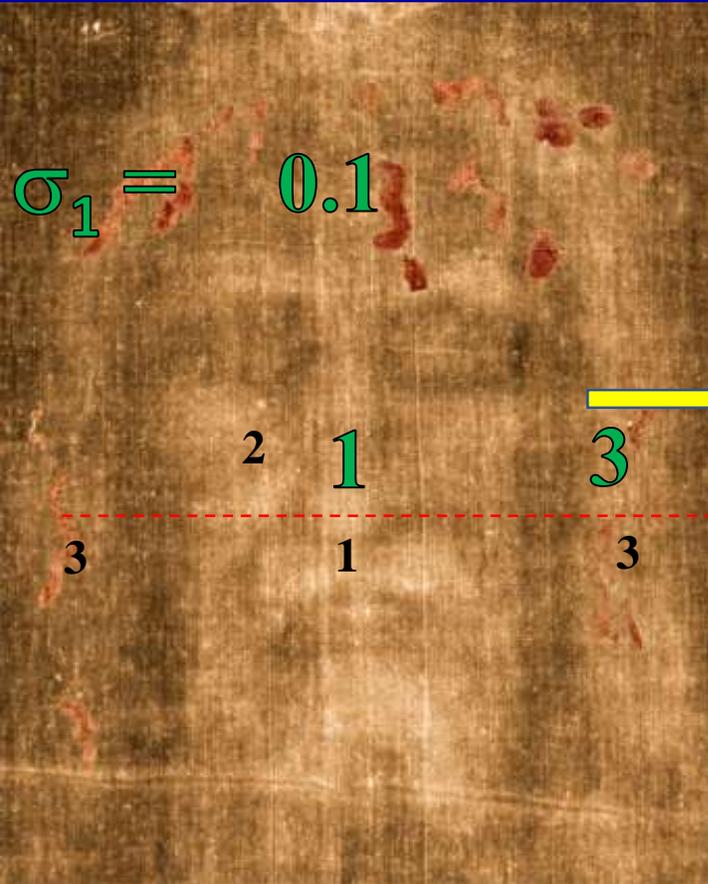
$$V\epsilon_0 = \sigma_1 r_1 = \sigma_2 r_2 = \sigma_3 r_3 \ln r_3$$

The electric fields E produced by spheres 1 and 2 and cylinder 3 are:

$$E_1 = \frac{\sigma_1}{\epsilon_0}; \quad E_2 = \frac{\sigma_2}{\epsilon_0}; \quad E_3 = \frac{L\sigma_3}{2r_3\epsilon_0}$$

2 – Unique wrapping condition of the body image: Proposed unique tight wrapping

Corona discharge – electric field – cosine effects – EXAMPLE OF THE HS



- HYPOTHESIS only orders of magnitude.
- As the hair is in a bundle, the charge density is reduced by a factor ≈ 20 .
- A sphere amplifies the field by a factor ≈ 3 , a cylinder by a factor ≈ 2 (neglected).
- The electric fields of spheres and cylinder interfere with each other.

IF: $\frac{KV}{4\pi} = 1$; $R_1 = 1 \text{ cm (nose)}$; $R_2 = 10 \text{ cm (head)}$; $R_3 = 0.003 \text{ cm (hair)}$

We obtain the values of **surface charge densities** (orders of magnitude):

$$\sigma_1 = 1 \text{ (nose)} \quad \sigma_2 = 0.1 \text{ (head)} \quad \sigma_3 = 1 / (0.003 \ln 0.003) = 57 \text{ (hair)}$$

$$\sigma_3^* = \sigma_3 / 20 = 3 \text{ (bundle of hair)}$$

2 – Unique wrapping condition of the body image: **Proposed unique tight wrapping**

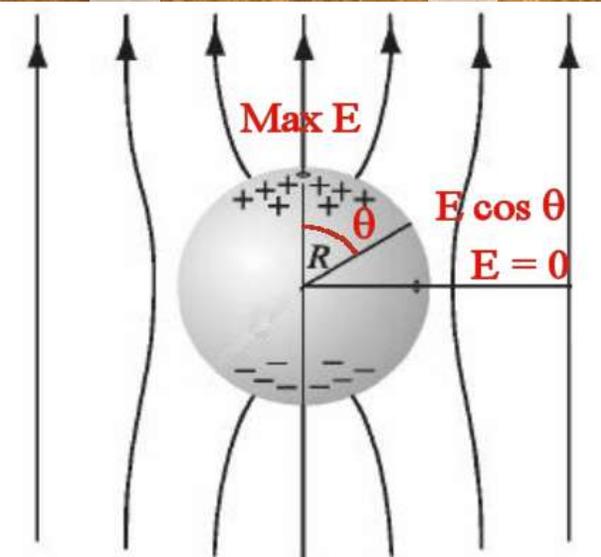
CONCLUSION

Science cannot explain body image, but the most credible hypothesis involves radiation; the best seems the following.

Radiation is produced by the corona discharge due to an intense electric field connected to the Holy Fire of Jerusalem, in conjunction with the Maillard reaction produced by the exuded urea.

Two different HS configurations have been hypothesized to explain both bloodstains and body image.

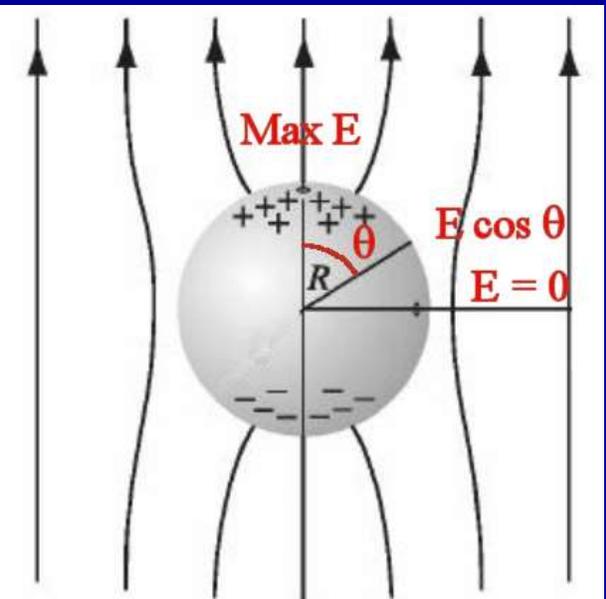
This analysis, based on the cosine effect of the radiation angle connected to electric fields, proposes for the first time a single tight wrapping configuration to explain both bloodstains and body image.





THE END

Thank you for the attention!



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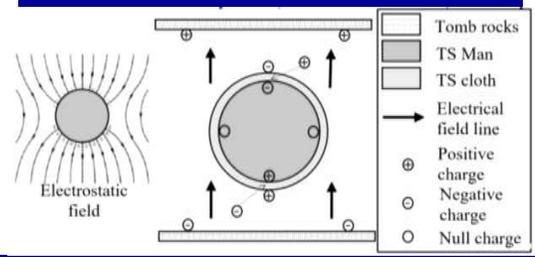


2 – Unique wrapping condition of the body image: Proposed unique tight wrapping

Corona discharge – electric field – cosine effects

THE THIRD DALLAS INTERNATIONAL CONFERENCE
ON THE SHROUD OF TURIN: DALLAS, TEXAS, SEPTEMBER 8-11, 2005
**BODY IMAGE FORMATION HYPOTHESES
BASED ON CORONA DISCHARGE**

Giulio Fanti¹, Francesco Lattarulo², Oswald Scheuermann³



The floating body is tightly wrapped in the TS

SINGULAR CASE – NOSE AREA – almost flat sheet

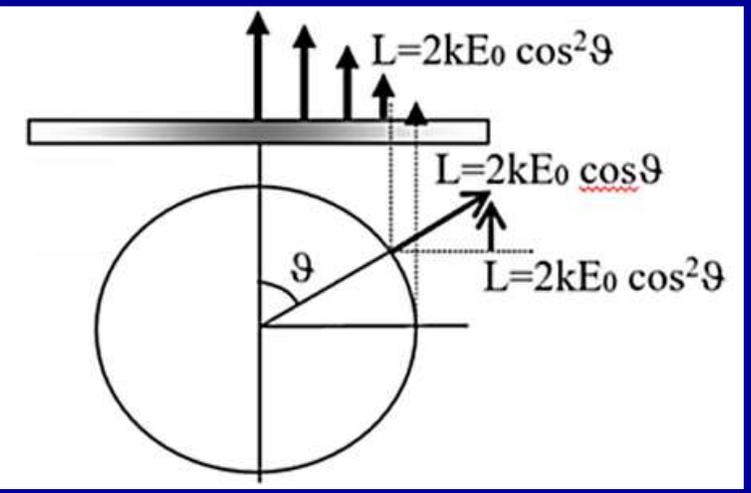
$$\text{Cos}^2 \theta$$

Vertical cross section of a cylinder (leg),
exogenous electric field \mathbf{E} ,
luminance vector \mathbf{L} orthogonal to the circle.

$$L = k E(\theta) = 2k E_0 \cos \theta$$

Vertical projection L' of L :

$$L' = L \cos \vartheta = 2k E_0 \cos^2 \theta$$



Luminance distribution on a flat sheet.

