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38 years in the nuclear industry in nuclear reactor design, criticality safety & statistical analysis of measurements. Shroud research and promotion since Jan. 2014

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Robert earned an MS degree in nuclear engineering from the U. of Michigan in 1971. He worked in the nuclear industry for 38 years in nuclear reactor design, nuclear criticality safety, and statistical analysis of measurements for nuclear material inventories. He holds Professional Engineering (PE) certificates in nuclear engineering and in mechanical engineering. He has conducted independent research and has promoted the Shroud since 2014. He organized the International Conference on the Shroud of Turin (ICST-2017) held July 19-22, 2017, in Pasco, Washington. His 22 papers on the Shroud can be downloaded from his website at <http://www.shroudresearch.net/research.html>.

ABSTRACT**Role of Radiation in Image Formation**

Formation of the image on the Shroud required three things: a discoloration mechanism, energy, and information. There must have been some discoloration mechanism that caused discoloration on the top portions of the fibers that make up the image on the Shroud. Energy would have been required for the functioning of this discoloration mechanism to alter the single electron bonds in the carbon atoms in the cellulose that cause the discoloration. And information defining the shape of the body and the presence of some of the bones was needed to control the discoloration mechanism so front and back images with good resolution could be formed. It is argued that if we follow the evidence where it leads and not be constrained by a presupposition of naturalism, then the best explanation for the evidence on the Shroud is that the required energy and information was delivered to the Shroud by radiation emitted from within the body. Multiple reasons are given for this view. The radiation that was emitted from within the body, by means of its intensity and direction, carried the necessary information from the body to the Shroud to control the discoloration mechanism. The radiation may have discolored the fibers directly and/or may have caused a secondary mechanism which discolored the fibers, perhaps by a corona discharge from the tips the fibers in the image.