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Instituto de Investigación  
Sanitaria La Fe

## **OSDEMCCT Software for the dose quantification imparted in organs by means of the accomplishment of computed tomography**

### **TECHNOLOGY DESCRIPTION**

The Medical Research Institute Hospital La Fe and the Polytechnic University of Valencia have developed a software that allows the integration of all processes necessary for dose estimation in each organ irradiated during a Computed Tomography (CT) scan.

Each year in Spain, more than 4 million CT scans are performed. Computed tomography, CT, is a procedure using a special X-ray equipment that provides detailed images of body regions for diagnosis and follow-up of patients.

The estimation made by the new software is accurate and fast, and provides a much lower uncertainty of results than the current one. The new software also generates customized files for each patient automatically.

The software presents a high precision in dose calculation because it uses a simulation model that contemplates, in detail, all the physical transport of particles that takes place in this type of diagnostic test, as well as the real geometry of the patient and irradiation characteristics.

### **MARKET APPLICATION**

OSDEMCCT is useful to calculate of radiation doses in organs, especially for its routine application in radiological protection services and medical image analysis.

### **TECHNICAL ADVANTAGES AND BUSINESS BENEFITS**

- Efficacy: The software allows to calculate the radiation with high precision.
- Protection of healthy tissues: with the precise knowledge of the radiation dose in healthy tissues and in combination with the dosimetric history, it allows the accurate recording of the accumulated dose in healthy tissues, to adapt the technique in future explorations and to reduce the dose applied to healthy tissues.
- Versatility. The software could be used in other types of treatments or diseases diagnoses in which ionizing radiation is also used, as long as it is adapted to the radiation source in the Monte Carlo simulation.

### **DEVELOPMENT STATE OF TECHNOLOGY**

The software is fully developed . However, for each CT scanner, prior to use, the calculated doses must be verified experimentally, as each system has its own spectrum.

### **INTELLECTUAL PROPERTY RIGHTS**

The software is registered as Intellectual Property.

### **PARTNER SEARCHED**

A company interested in signing a license agreement for commercial exploitation



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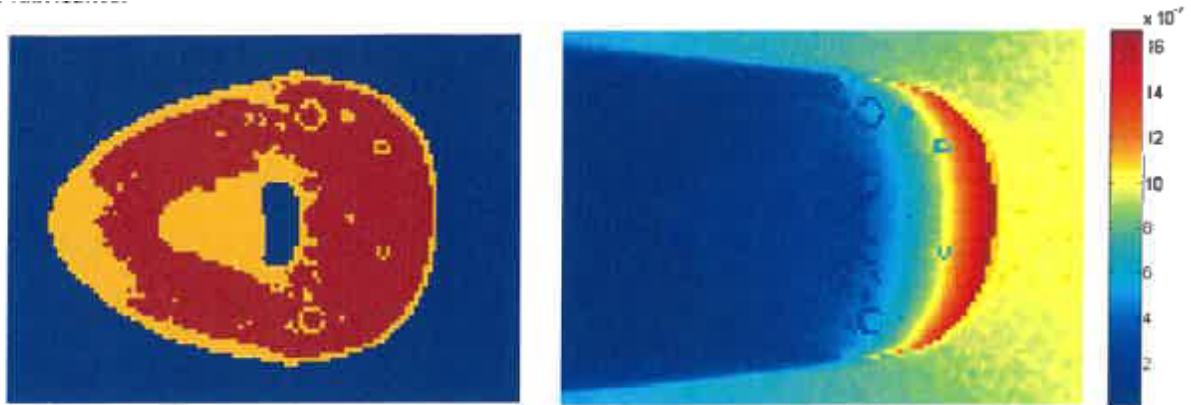
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**CONTACT INFORMATION**

Elena Carrió Argos  
**Innovation Área OTRI IIS La Fe**  
elena\_carrio@iislafe.es  
Health Research Institut Hospital La Fe  
Avinguda de Fernando Abril Martorell, nº 106  
46026 Valencia SPAIN