

Friday, November 7, 2008

Eugene Surdutovich Studies the Physics of Proton Beam Cancer Therapy

William Beaumont Hospital--OU's partner in establishing the **Oakland University William Beaumont School of Medicine**--has **announced** it will invest \$159 million to develop a proton beam therapy center. Although proton therapy has great promise, the fundamental physics of how protons interact with biological tissue is not yet understood completely. OU Visiting Assistant Professor **Eugene Surdutovich**, of the **Department of Physics**, and an international team of coworkers have recently published a paper in the **European Journal of Physics D** titled **Ion-Induced Electron Production in Tissue-Like Media and DNA Damage Mechanisms**, in which they used computer simulations to predict these interactions. They succeeded in "making quantitative predictions of effects such as the energy spectrum and the abundance of secondary electrons and local heating caused by the projectile." Such a detailed understanding of the basic biophysics is essential for a complete understanding of proton beam cancer therapy.

SUMMARY

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