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Abstract for an Invited Paper for the SES06 Meeting of the American Physical Society

Proton Radiotherapy CYNTHIA KEPPEL, Hampton University / Jefferson Lab

Proton therapy is the most precise and advanced form of radiation treatment for cancer available. Due to the characteristic Bragg peak associated with ion energy deposition, proton therapy provides the radiation oncologist with a highly exact method of localizing treatment within a patient, as compared with conventional radiation therapy using X-rays or electrons. Controlling disease and minimizing side effects are the twin aims of radiation treatment; protons enhance the opportunity for both by facilitating maximal dose to tumor and minimal dose to surrounding tissue. In the United States, five proton centers currently treat cancer patients. Hampton Roads will be home to the nation's sixth, and largest. An overview of both the treatment capability and research planned for this center will be presented.