For prostate case, 76 and 81 Gy plans were generated. Dose distributions for wedged field plans and Intensity Modulated (IM) field plans were compared for a quadratic cost function.[1] For wedged plans, a Simulated Annealing Algorithm (SAA) was used to optimize the gantry angles, wedge angles, beam weights and field shapes. Two kinds of wedged plans were generated: 1) field sizes were determined by the requirement of full target coverage in the beam's eye view (fixed fields) and 2) the field shape in particular at the critical organ-target overlap region was also among the variables optimized. For IM plans the SAA was used to optimize gantry angles and field shapes and a conjugate gradient algorithm was used to optimize the IM beam fluences. Both the IM plans and field shape optimized wedged plans had significantly superior DVHs of the target and the rectum compared to the fixed field wedged plans.

[1]Stein et al., Med Phys **24**:149-160,1997.