

**Parameter Optimization in RFQ Design,**  
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USA - The High Intensity Proton Injector (IPHI) project in  
France calls for a CW RFQ capable of accelerating 100 mA  
of proton beam from 95 keV to 5 MeV. Over the years,  
different parameter-set choices resulting in RFQ designs  
with varied characteristics have been extensively studied  
here at Saclay as well as in other laboratories around the  
world. Methods to establish optimum beam dynamics-  
parameters are well understood. However, the effects of  
the parameters that are closely connected to the mechanical  
geometry and rf performance are not well established. In  
this paper, we compare two RFQ designs; one in which the  
aperture radius and the vane voltage are kept constant and  
the other where they are allowed to vary. The relative  
merits of the two design-choices are reported.