

**The EBIS Option for Hadron Therapy,**  
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EBIS (electron beam ion source) can deliver sufficiently  
short and intense pulses of fully stripped light ions for  
single turn injection into a dedicated synchrotron for hadron  
therapy. In order to reach the injection energy of 1 (or 2)  
MeV/u only one stage of rf acceleration without stripper will  
be needed, consisting of a 2 (or 4) m long RFQ with a few  
Watts of average power consumption. While EBIS sources  
have shown in the past their ability to deliver the required  
intensities as well as the short pulse shape for single turn  
injection, attention must be paid to the question of beam  
purity. Different options will be discussed, especially the  
removal of impurity ions by ion-cyclotron-resonance  
excitation at intermedium charge states during stepwise  
ionisation.