The fast and neat approach to calculate integral phase slip, implemented in CORD code, and its demonstrative run for SC230 cyclotron.

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The straight forward way to calculate Integral Phase Slip (IPS) in a cyclotron is to perform beam dynamics simulation. But for IPS calculation with very high accuracy (as it will be proven bellow) the following things are enough: calculated equilibrium orbits with respect to particle energy and the voltage distribution over accelerating gaps, as well as the gaps' position. This requires only 2D magnetic and electric field maps as an input to our multitool program –CORD, which uses Gordon's algorithm for orbits' calculation and special iterative procedure for IPS computation. The program and its accuracy were tested for SC230 cyclotron, but it could be applied to a vast variety of cyclotron models.

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