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1.3 GHz RF-Dipole Crabbing Cavity System for International Linear Collider

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The International Liner Collider requires a crabbing system to increase the luminosity of the colliding electron bunches. There are several frequency options proposed for the crabbing cavity design. We have designed a 1.3 GHz compact rf-dipole crabbing cavity to compensate for the luminosity degradation due to large crossing angle. The rf-dipole design has been selected as one of the two cavity designs to be prototyped following the Down Selection Review on Crab Cavity Design held in April 2023. We will be presenting the complete rf-dipole cavity designed to meet both electromagnetic and mechanical specifications.

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