

# FIP/P1-13 RFQ Commissioning of Linear IFMIF Prototype Accelerator (LIPAc)

## LIPAc Progress over the past two year:

- (1) 8 RF chains (175MHz, 200kW for each) were connected to the RFQ with 8 coaxial waveguides, and RF conditioning has been started.
- (2) A simultaneous power injection from 8 RF chains into the RFQ and careful conditioning, a required RF field for the 5MeV deuteron beam acceleration was obtained at 20 us pulse.
- (3) The first proton beam acceleration of 2.5MeV in RFQ has been successfully conducted in June 2018.
- (4) Good sign of RFQ design validity was obtained (transmission >90%, output energy 2.5 MeV, beam current up to 35 mA at H+ beam)
- (5) 50 keV/70 mA p and 100 keV/140 mA d beams satisfy RFQ input emittance  $< 0.25\pi$  mm mrad
- (6) RF conditioning of RFQ required for the high current D+ beam



**This results will give us successful IFMIF/EVEDA Project !!**