

Discussion on "RIA Project:Driver Linac Overview" by Ken Shepard

Ken presented a number of reasons, why spokes will be superior to elliptical cavities at medium β s (around 0.5) for the RIA project. The question was raised if there are any reasons to stick with elliptical cavities for any future projects in this beam velocity range. Ken answered that he does not see any reasons for this, he even thinks SNS, if it would be designed today, should use spokes in this range.

Related to presented cavity shapes it was asked why the new multi-gap spoke resonators for RIA use racetrack cross-sections at the aperture, while the previous shorter designs used round spokes. Ken answered that he thought that the non-homogeneous spokes would be more complex in fabrication. Recent thoughts about this convinced him that there are no differences in manufacturing complexity.

It was pointed out that LANL saw differences in conditioning and multipacting behavior between the ANL cavities with round spokes (short conditioning time) and the LANL spoke with a racetrack cross-section (long conditioning time). Ken's experience showed conditioning times from 10s of minutes to 18 hours for his spoke resonators over the years. He believes that multipacting is not understood yet and should be tackled in the near future.