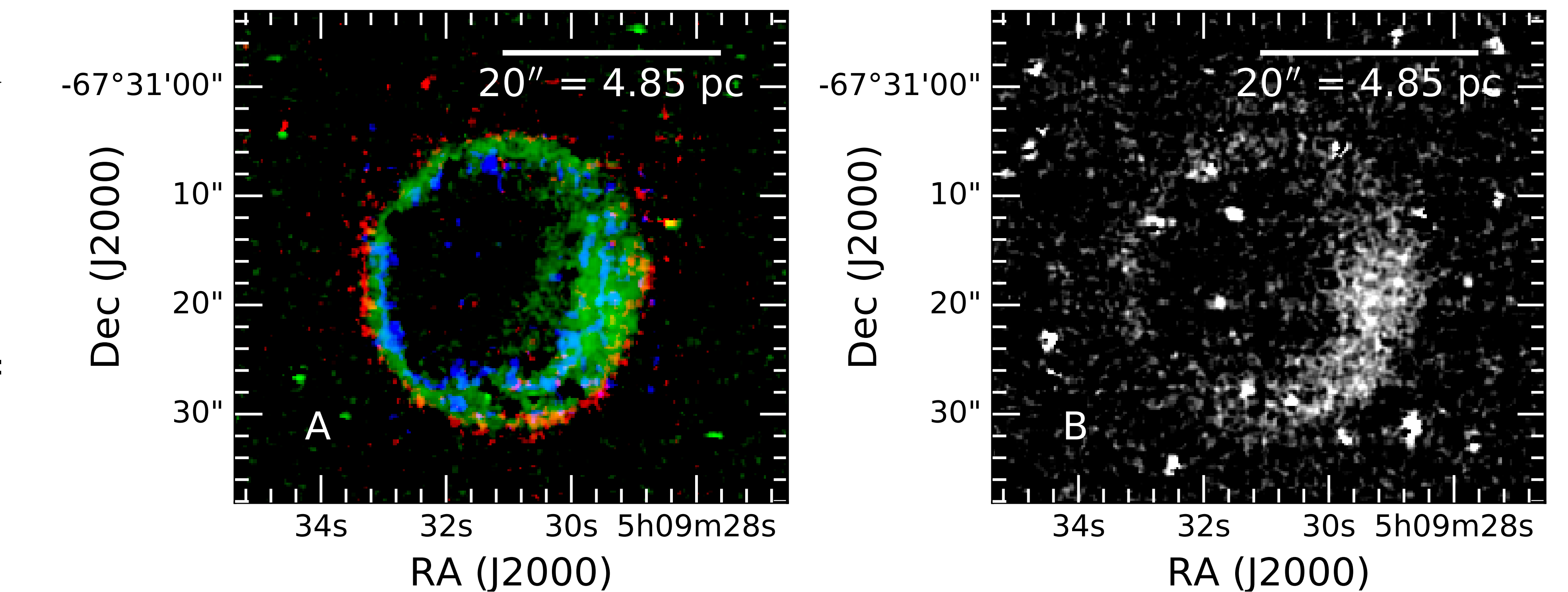


MUSE Spectra extracted from a 1.96 square arcsecond area at the locations indicated

We have discovered optical emission of the shocked ejecta in the three youngest Type Ia supernova remnants in the LMC. Deep MUSE data cubes (096.D-0352[A], PI: Leibundgut; 0100.D-0151[A], PI: Morlino) reveal broad coronal lines of [Fe IX], [Fe XIV], [Fe XV] and [S II]. The nearly circular [Fe XIV] emission of 0519-69.0 and 0509-67.5 allows us to infer the location and velocity of the reverse shock. Since the forward shock parameters and approximate SNR ages are also known, we can constrain the SN explosion models: **0519-69.0 is well explained by a standard near-Chandrasekhar mass explosion, whereas for 0509-67.5 our analysis suggests an energetic sub-Chandrasekhar mass explosion.**



[S XII] 7613.1 \AA (red), [Fe XIV] 5302.8 \AA (green), and [Fe IX] 8236.8 \AA (blue) spatially separated: SUPERNOVA REMNANT TOMOGRAPHY. Also detected is [Fe XV] 7062.1 \AA (panel B).