Supplemental information for MBE of epitaxial Al/Ge quantum wells for quantum computing

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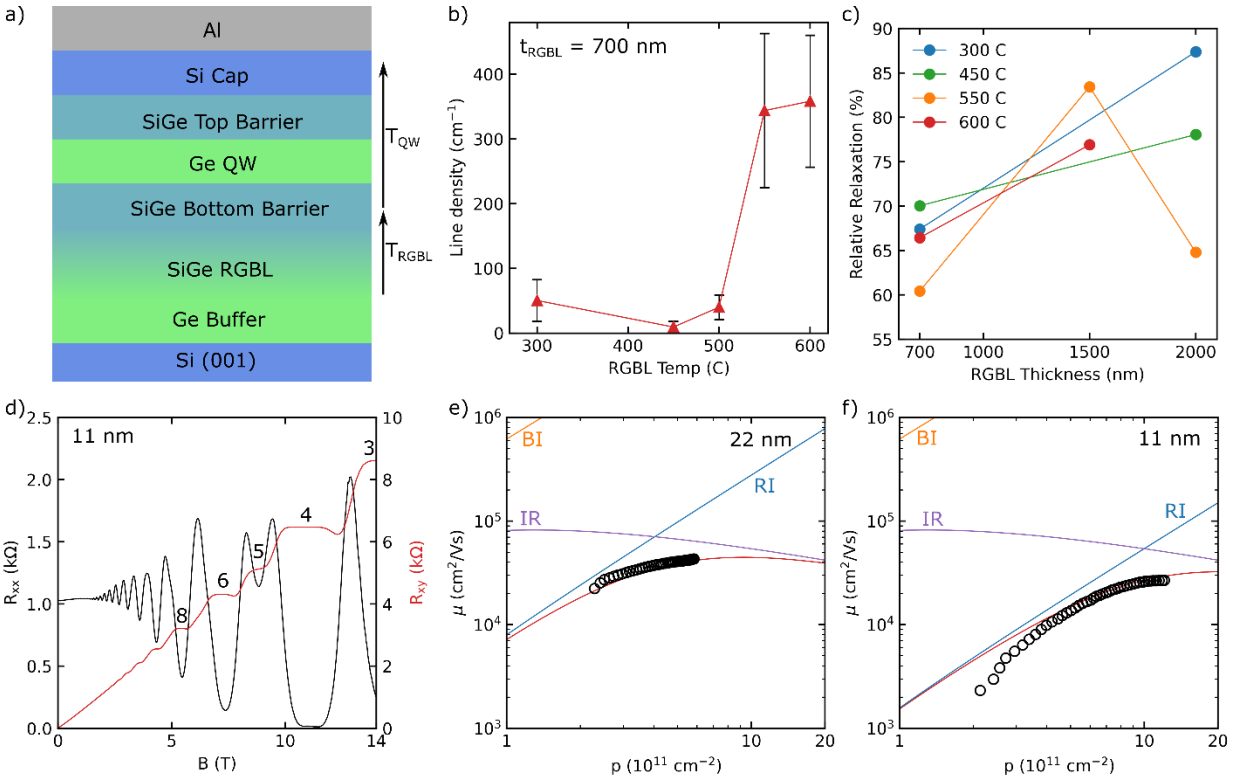

Figure 1: a) Layer schematic of the Ge QW heterostructures. b) Line defect density dependence on RGBL growth temperature for a 700 nm thick RGBL. c) Relative relaxation of the SiGe with respect to the Be buffer as a function of RGBL growth temperature and RGBL thickness. d) T = 2 K magnetotransport from the 11 nm thick top spacer Ge QW. e) and f) mobility modeling of the quantum wells with 22 and 11 nm top spacers, demonstrating that interfacial roughness scattering (IR) dominates at the high carrier density regime, while scattering from remote impurities at the surface (RI) dominates at the lower carrier density regime.