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Zero Field Rashba Spin Splitting in InSb Hole Systems DILHANI JAYATHILAKA, ARUNA DEDIGAMA, SHEENA MURPHY, MADHAVIE EDIRISOORRIYA, TETSUYA MISHIMA, MICHAEL SANTOS, University of Oklahoma, C-SPIN COLLABORATION — We report weak anti-localization studies of 2D hole systems based in asymmetric Be-doped InAlSb/InSb quantum wells. In the valence band, spin-orbit effects are not only influenced by the structural asymmetry but also by the separation between the light and heavy hole bands. In these studies which varied not only carrier concentration but also well width, it was found that the Rashba interaction increases with increasing doping asymmetry and well width as expected, but was only in modest agreement with theoretical expectations for the Rashba interaction in the valence band.

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