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Edge spin accumulation in the 2D Rashba system in the quasi-ballistic regime and arbitrary scattering in the bulk[1] ALEXANDER KHAETSKII, Physics Department, SUNY at Buffalo — We consider a 2D structure with spin-orbit-related splitting of the electron spectrum described by the Rashba Hamiltonian. We concentrate on the quasi-ballistic case when a mean free path, being much smaller than the sample size, is larger than the spin precession length determined by the value of the spin-orbit splitting. We calculate the edge spin density which arises in the presence of a charge current through the structure for an *arbitrary* smoothness of the scattering potential in the bulk. We show that despite the absence of the bulk spin current, the edge spin density appears which character depends on the smoothness of the bulk impurity potential.

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