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Quantized anomalous Hall effect and intrinsic spin transport in aRashba insulator JUNREN SHI, QIAN NIU, University of Texas at Austin — Reciprocal (**k**-space) magnetic field (Berry curvature) is known to play an essential role in charge and spin transports in metallic systems with spin-orbit coupling, and can also lead to non-trivial transport properties in insulators. Here we propose such a band insulator constructed from a two-dimensional electron system with Rashba spin-orbit coupling and a periodic co-linear Zeeman exchange field. Such an insulator shows quantized anomalous charge Hall effect as well as a finite spin-hall effect. The spin hall coefficient is on the order of $e/4\pi$, and is robust against the presence of disorder. Possible experimental realizations are discussed.

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