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**Soliton Wall Superlattice Charge-Density-Wave Phase in Quasi-One-Dimensional Conductor (Per)2Pt(mnt)2**[1] SI WU, ANDREI LEBED, University of Arizona — We demonstrate that the Pauli's spin splitting effects in a magnetic field improve nesting properties of a realistic quasi-one-dimensional electron spectrum. As a result, a high resistance Peierls charge-density-wave (CDW) phase is stabilized in high enough magnetic fields in (Per)2Pt(mnt)2 conductor. We show that, in low and very high magnetic field, the Pauli spin-splitting effects lead to a stabilization of a soliton wall superlattice (SWS) CDW phase, which is characterized by periodically arranged soliton and anti-soliton walls. We suggest experimental studies of the predicted first order phase transitions between the Peierls and SWS phases to discover a unique SWS phase. It is important that, in the absence of the magnetic field and in the limit of very high magnetic field, the suggested model is equivalent to the exactly solvable model of Brazovskii, Dzyaloshinskii, and Kirova.

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