HRS-tilting and derived equivalences

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We give necessary and sufficient conditions for the existence of a derived equivalence between an abelian category A and its Happel-Reiten-Smalo tilting B, compatible with the inclusion of B into the derived category of A. The applications include unifying tilting torsion pair and cotilting torsion pair, splitting torsion pairs, unifying APR-reflection and HW-reflection, and 2-term silting subcategories. This is based on joint work with Xiao-Wu Chen and Zhe Han.