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Time-resolved quasiparticle dynamics of the itinerant antiferromagnet $UPtGa_5$[1] ELBERT CHIA, Nanyang Technological University, JIAN-XIN ZHU, Los Alamos National Laboratory, DIYAR TALBAYEV, Tulane University, H.J. LEE, University of California at Berkeley, NAMJUNG HUR, Inha University, N.O. MORENO, Federal University of Sergipe, R.D. AVERITT, Boston University, J.L. SARRAO, A.J. TAYLOR, Los Alamos National Laboratory — Time-resolved photoinduced reflectivity is measured in the spin-density-wave phase of the itinerant antiferromagnet $UPtGa_5$. Two relaxation components were seen: (a) a slow component whose amplitude appears below T_N, and relaxation time τ_{slow} exhibits an upturn near T_N; (b) the fast component persists at all temperatures, with the relaxation time τ_{fast} also exhibiting an upturn near T_N. Comparing with pump-probe data on $UNiGa_5$, the differences are explained in the context of $UPtGa_5$ having A-type, (rather than G-type) antiferromagnetism, resulting in partial Fermi surface nesting, partial gapping and consequently finite density of states, at the Fermi surface.

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