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Transfer of atomic alignment in alkali systems B. PATTON, O. NEITZKE, S. ROCHESTER, Department of Physics, UC Berkeley, E. BAHR, S. GUTTIKONDA, D.F. JACKSON KIMBALL, Department of Physics, CSU East Bay, B. COSTE, Institut Polytechnique de Grenoble, I. NOVIKOVA, Department of Physics, College of William & Mary, D. BUDKER, Department of Physics, UC Berkeley and Nuclear Science Division, Lawrence Berkeley National Laboratory — The well-known phenomenon of "spin exchange" has been thoroughly characterized in alkali-alkali collisions, and atomic orientation is easily transferred between different alkali isotopes. Nevertheless, collisional transfer of higher-order polarization moments (such as atomic alignment) has received little attention in the literature. Such alignment transfer should be forbidden in sudden binary collisions of alkali atoms, but it is reasonable to question at what level. Here we discuss recent experiments to place limits on this alignment-exchange rate between isotopes of rubidium and cesium in a room-temperature vapor cell.

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