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Luz De Teresa* (deteresa@matem.unam.mx), Circuito Exterior C.U., 04510 Mexico, D.F., Mexico. *Some results on the controllability of two parabolic equations with first order terms in the coupling.* Preliminary report.

We explain some new results on the controllability on two parabolic equations with first order terms in the coupling. First, we will review the existing result when the coupling is with zero order terms and secondly present the new results that include the obtention of a new Carleman inequality that requires the control set to be a neighborhood of part of the boundary. At the end we will present a controllability result for a system of three parabolic equations and present some open problems. (Received April 09, 2010)