

Coincidence theorem and the inner core

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Abstract

We prove a variant of Fan's coincidence theorem. Then, by applying it, we give another proof to a theorem on the nonemptiness of the inner core due to Aubin [Aubin, J.P., 1973. Equilibrium of a convex cooperative game. MRC Technical Summary Report #1279, Mathematics Research Center, University of Wisconsin-Madison] and Inoue [Inoue, T., 2011. The nonemptiness of the inner core. SSRN: <http://ssrn.com/abstract=1954304>]. Our coincidence theorem is a suitable mathematical tool for proving the nonemptiness of the inner core in the sense that one of the assumptions of our coincidence theorem is equivalent to the balancedness of a non-transferable utility (NTU) game when two correspondences are defined properly.

Keywords: Coincidence theorem; inner core; balancedness; NTU game

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