

JOURNAL OF PLASMA AND FUSION RESEARCH

The Journal of the Japan Society of Plasma Science and Nuclear Fusion Research

Vol. 89, No.10, October 2013

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The figures on the left depict the magnetic field profiles of B_r , B_ϕ and B_z on the horizontally elongated cross section in the Large Helical Device (LHD), which have been reconstructed using the 3D Cauchy condition surface (CCS) method with a small number of magnetic sensor signals. The error maps on the right show that the reconstructed results agree fairly well with the true field profiles outside the last closed magnetic surface (LCMS). The present research results suggest the possibility of actual application to the LHD. (Masafumi ITAGAKI, Plasma and Fusion Research Vol.8, 1402134 (2013) <http://www.jspf.or.jp/PFR/>)