

S4-013

会場：C405

時間：6月6日 13:30-13:45

プリュームの存在によるマントル内電気伝導度の異常分布で誘導される磁場の数値シミュレーション

Numerical Simulation of Magnetic Field Induced by Electrical Conductivity Anomaly Associated with a Hot Plume in the Mantle

田島 文子[1], 松元 亮治[2], Wenchien Chou[3]

Fumiko Tajima[1], Ryoji Matsumoto[2], Wenchien Chou[3]

[1] 加州大・バークレー・地震研, [2] 千葉大・理・物理, [3] RIST

[1] U C Berkeley Seismo. Lab., [2] Dept. Physics, Fac. Sci., Chiba Univ., [3] RIST

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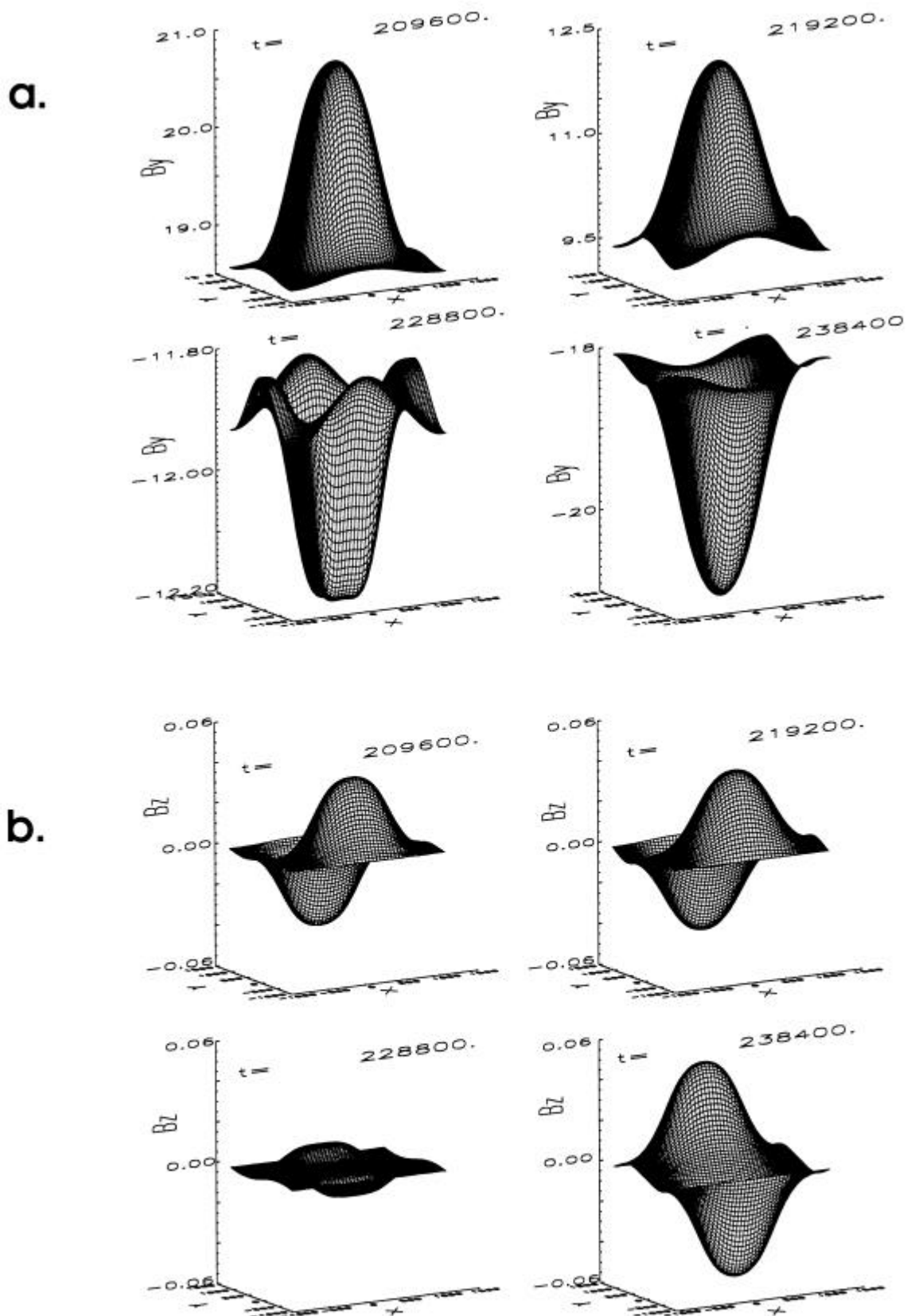


Fig. 1. Induced magnetic field by the coupling of an external field with the mantle, given electrical conductivity anomalies in a vertical column with a diameter of 400 km embedded in a depth range from 660 to 1000 km and in an overlaid broader layer ($\sim 1000 \times 1000 \text{ km}^2$) right beneath 660 km (i.e., a plume like feature). A plain electric field that oscillates with a period of 50,000sec in x-direction is given to represent the external field. a. B_y 's at $t=209600$, 219200, 228800, and 238400 sec after the onset of the simulation, respectively. Note the amplified magnetic field above the anomaly. b. B_z 's computed for the same durations as in a. The induced magnetic field that oscillates only above the EC anomaly is observed.