

2005/2/15 Release

New simulation method for computing hysteresis magnetic field - $1/100$ computing time of conventional method -

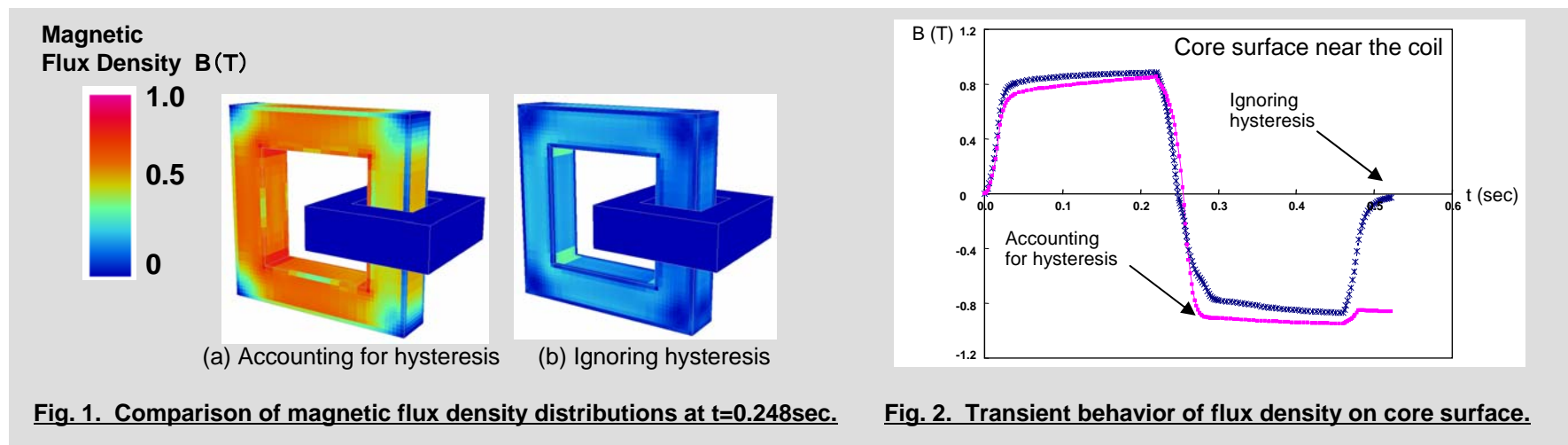


Fig. 1. Comparison of magnetic flux density distributions at t=0.248sec.

Fig. 2. Transient behavior of flux density on core surface.

The Hitachi Research Laboratory of Hitachi, Ltd. (General Manager: Mr. Yasushi FUKUNAGA), with the cooperation of the Technical Development Bureau of Nippon Steel Corporation (Manager Director: Mr. Naoki OKUMURA), has developed a highly accurate high-speed numerical simulation technique to analyze the magnetic hysteresis phenomena which occurs in magnetic and ferromagnetic materials such as steel. Until now, it was difficult to accurately take into account the complex hysteresis phenomena when designing electrical equipment such as motors and generators. The technique developed is expected to contribute to shortening design and manufacturing time, as well as functional design improvements in electrical magnetic equipments.