THE ROTATION PERIOD OF JUPITER FROM GALILEO MAGNETIC FIELD OBSERVATIONS

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Since Jupiter does not possess a solid surface, the repetition frequency of jovian radio emissions has been used as a proxy for the rotational frequency of the interior of the planet. A more direct method of measuring the rotation rate is to follow the rotation of the magnetic dipole. Seven years of such measurements are available from the Galileo mission. These verify the accuracy of the presently IAU defined rotation period of 9h 55m 29.71s. We can also link the present dipole position to that observed in previous epochs by Pioneer Voyager and Ulysses. This confirms that any adjustment of the presently accepted rotation rate must be very small.