in an almost circular orbit with an orbital speed of about 220 km s^{-1} . Strangely, the orbital speed is almost independent of radius for stars and other objects in the Galaxy (except near the centre). Show that the frequency of radial oscillation is about $\sqrt{2}$ times the angular frequency of rotation. What kind of gravitational potential (and mass distribution, assuming spherical symmetry) might be responsible for an orbital speed that is independent of radius?

Suggested Reading

- [1] C D Murray and S F Dermott, *Solar System Dynamics*, Cambridge University Press, 1999.
- [2] Online references can be found by doing a search on *epicyclic motion* on the Internet.

Errata

Resonance, Vol. 8, No. 10, pp.76-84,
October 2003

Page 80: Please note that the equation (7)

$$m = \frac{3! \times 2^3}{x! \times 2^3}$$

should read as

$$m = \frac{3! \times 2^3}{x! \times 2^y}$$

Page 82: In equation (9), the summation is from ($m=1, n=1$) to 10 and not 6 as printed.

Resonance, Vol.8, No.11, p.94, November 2003, please note the change of address of the author

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