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Erratum

# Erratum to: "Spin-dependent Bohm trajectories for hydrogen eigenstates" [Phys. Lett. A 300 (2002) 334] ☆

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The line after (9) should read:

"Comparing Eqs. (9) and (1), we see that for a real eigenstate, $\nabla S = 0$, so that ..."

The phrase immediately preceding Eq. (25) should be replaced by:

"For the $2p$ states with $m = \pm 1$, cf. Eq. (13), $\nabla S$ is not identically zero and so we must use the momentum equation (4). We find that"

Immediately after this phrase, the following section should be added:

$$\mathbf{p} = \pm \frac{\hbar \sin\theta}{2a} \hat{\phi}.$$

The coordinates $r$ and $\theta$ are constant, implying circular orbits about the $z$-axis. The orbital angular velocity is given by

$$\frac{d\phi}{dt} = \pm \frac{\hbar}{2mar}.$$

It will be instructive (for an analysis of Eq. (29) below) to examine the Bohm trajectories resulting from Eq. (10), i.e., ignoring the $\nabla S$ term. We find that

Eq. (25) of the Letter now follows.

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