

Abstract Submitted
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**A classical spinor approach to the quantum/classical interface:
background and new results**¹ RENAN CABRERA, WILLIAM E. BAYLIS,
Univ. Windsor, ON, Canada — We first review how classical results take quantum
form² in the algebra of physical space (APS). APS is the Clifford (or geometric)
algebra of 3-D Euclidean space, and its paravectors form a 4-D linear space with the
Minkowski spacetime metric. It provides a spinor description of classical relativistic
dynamics that bridges much of the traditional gap between classical and quantum
formulations. We then provide details of new quantum and classical eigenspinor
solutions for charges in electromagnetic fields, including the use of null coordinates
to reduce the spinor equations of motion in the presence of electromagnetic plane
waves.

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²W. E. Baylis in *Computational Noncommutative Algebra and Applications*, Proc.
NATO Advanced Study Institute, NATO Science Series II, Vol. 136, ed. J. Byrnes
(Kluwer Academic, Dordrecht 2004), pp. 127—154 and 363—387.

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