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 form[2] 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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