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New Manifestations in Near-Threshold Electron Attachment Cross Sections for K and Rb¹ A.Z. MSEZANE, Z. FELFLI, Clark Atlanta University, D. SOKOLOVSKI, The Queen University of Belfast, UK — Regge trajectories¹ were employed for a fundamental understanding of the mechanism of electron attachment in electron-atom collisions, capturing with significantly less effort the low-energy results of the Dirac R-matrix². Here we demonstrate, following Macek et.al.³ and Sokolovski et.al.⁴ that for e - K and e - Rb scattering the near-threshold electron attachment cross section is characterized by respectively, an s-wave and a d-wave Wigner threshold behavior, Ramsauer-Townsend minima, including the differential cross section's critical minima, and shape resonances, all discernible only through Regge partial cross sections scrutiny. Partial Regge cross sections, Differential and total cross sections at near threshold collision energies will be presented and discussed. [1] Z. Felffi, et. al., J. Phys. B At. Mol. Opt. Phys. **39**, L353-L359 (2006). [2] C. Barim, et. al. Phys. Rev. **A63**, 042710 (2001). [3] J. H. Macek, et. al., Phys. Rev. Lett. **93**, 183203 (2004). [4] D. Sokolovski, et. al., Phys. Rev. A, Submitted (2006)

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