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Doubly excited resonance states of the positronium negative ion embedded in Debye (screened Coulomb) plasmas¹ S. KAR, Y.K. HO, Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei — The $^{1,3}P^o$ resonance states of positronium negative ion embedded in dense plasma environments are determined by calculating the density of resonance states using the stabilization method [1]. A screened Coulomb potential obtained from Debye model is used to represent the interaction between the charge particles. Correlated wave functions are used to represent correlation effect between the three charge particles. In an earlier work, we reported a calculation for doubly excited $2s^2 {}^1S^e$ resonance of the positronium negative ion embedded in Debye plasmas [2]. In the present work, we have calculated ${}^{1}P^{o}$ and ${}^{3}P^{o}$ resonances associated with, and below, the n=2 threshold of the positronium atom. The resonance energies and widths for various Debye lengths ranging from infinity to a small value will be reported in the meeting. The work is supported by the National Science Council of ROC. References: [1] V. A. Mandelshtam, T. R. Ravuri, and H. S. Taylor, Phys. Rev. Lett. 70, 1932 (1993). [2] S. Kar and Y. K. Ho, *Phys. Rev. A* **71**, 052503 (2005).

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