

Abstract Submitted
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Nonradiative Energy Transfer in Assemblies of Nanostructures with Mixed Dimensionality PEDRO LUDWIG HERNANDEZ-MARTINEZ¹, HILMI VOLKAN DEMIR², Department of Physics, Department of Electrical and Electronics Engineering, UNAM, Bilkent University, Ankara 06800, Turkey — We study the exciton-exciton interaction and nonradiative energy transfer in nanostructure assemblies with mixed dimensionality. We investigate possible combinations in terms of dimensionality for these nanostructures, and analyze the resulting non-radiative energy transfer rates as a function of dimensionality. Depending on the direction of the energy transfer, arrangements of such nanostructures have potential applications in both photovoltaics [1] and light generation [2].

[1] J. Sambur, et al., “Multiple Exciton Collection in a Sensitized Photovoltaic System”, *Science* 330, 63 (2010).

[2] R. Yan, et al., “Nanowire Photonics,” *Nature Photonics*, 3, 569-576 (2009).

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