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**Todor E Milanov\*** ([milanov@math.stanford.edu](mailto:milanov@math.stanford.edu)). *The Equivariant Gromov-Witten Theory of  $CP^1$  and Integrable Hierarchies.*

Using certain quantization formalism associated with the equivariant cohomology algebra of  $CP^1$ , I will introduce an integrable hierarchy in terms of vertex operators and Hirota quadratic equations (shortly HQE). The vertex operators are related to the equivariant mirror model of  $CP^1$  and one of my goals will be to describe this relation. In particular, this will allow me to explain why the equivariant descendant potential of  $CP^1$  satisfies the HQE mentioned above. After a change of the variables the HQE can be transformed into the HQE of the 2-Toda hierarchy. Thus we get a new proof of the equivariant Toda conjecture. (Received September 15, 2005)