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Daniel Aron Alpay* (dany@math.bgu.ac.il), **Palle Jorgensen**, **Izchak Lewkowicz** and **Itzik Marziano**. *Representation formulas for Hardy space functions through the Cuntz relations and new interpolation problems.*

We introduce connections between the Cuntz relations and the Hardy space H_2 of the open unit disk . We then use them to solve a new kind of multipoint interpolation problem in H_2 , where for instance, only a linear combination of the values of a function at given points is preassigned, rather than the values at the points themselves. We also consider the case of de Branges-Rovnyak spaces. (Received September 20, 2011)