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Alice Guionnet and **Dimitri Shlyakhtenko*** (shlyakht@math.ucla.edu). *Free Monotone Transport*.

We show that monotone optimal transport maps between certain unitarily invariant measures on spaces of n -tuples of $N \times N$ matrices converge in the large- N limit to a map given by analytic functional calculus. The limit map can be interpreted as a free monotone transport map in the sense of free probability theory. We discuss some consequences, including applications to operator algebras. (Received September 12, 2013)