Transition probabilities of states on ∗-algebras.

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Let f and g be states of a complex unital ∗-algebra. Following A. Uhlmann (1976), the transition probability $P(f,g)$ is defined as the supremum over all expressions $|\langle \varphi, \psi \rangle|^2$, where φ and ψ are vectors representing f and g, respectively, in some ∗-representation of A. A number of general results on this transition probability are obtained and applications to states on the Weyl algebra and on polynomial algebras are given.