

Free functions preserving certain partial orders of operators

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Recently free analysis has been a very active topic of study in operator and function theory. In particular free functions that preserve partial orders of operators have been studied by a number of authors, in connection with Loewner's theorem. Also operator concave and convex free functions naturally get into the picture as we study the positive definite order preserving free functions. We will go through recent results and open problems in this field, and we will cover some recent joint work with M. Gaál on real operator monotone functions.