



Gergő Nagy (nagyg@math.unideb.hu) Institute of Mathematics, University of Debrecen, 4010 Debrecen, Hungary, *Isometries of spaces of positive operators*.

ABSTRACT. In the first part of this talk we consider two distances, the Thompson metric and the Hilbert projective metric on the space of invertible positive operators acting on a complex Hilbert space H . The Thompson metric is closely related to the natural differential geometric structure of the set of invertible positive operators defined on H . In his recent paper L. Molnár has described the structure of the surjective isometries of the space of invertible positive operators on H with respect to the Thompson metric or the Hilbert projective metric under the condition $\dim H \geq 3$. We extend those results for the 2-dimensional case.

The second part of the presentation is devoted to certain isometries of positive trace-class operators. The trace-class of operators can also be regarded as a noncommutative l_1 space. We consider a class of metrics on the spaces of positive trace-class operators defined on a complex Hilbert space. These distances are in an intimate connection with the von Neumann-Schatten p -norms.