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# Abstract

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In this report, after recalling the definition of the Möbius group, we define homogeneous operators, that is, operators  $T$  with the property  $\varphi(T)$  is unitarily equivalent to  $T$  for all  $\varphi$  in the Möbius group and prove some properties of homogeneous operators. Following this,

(i) we describe isometric operators which are homogeneous.

(ii) we describe the homogeneous operators in the Cowen-Douglas class of rank 1.

Finally, Multiplier representations which occur in the study of homogeneous operators are discussed. Following the proof of Kobayashi, the multiplier representations are shown to be irreducible.