



**STRONG DIFFERENTIAL SUBORDINATION AND  
SUPERORDINATION FOR  $p$ -VALENT FUNCTIONS  
INVOLVING THE FRACTIONAL  
DERIVATIVE OPERATOR**

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**Abstract**

Strong differential subordination and superordination properties are determined for some families of  $p$ -valent functions in the open unit disk which are associated with certain fractional derivative operator by investigating appropriate classes of admissible functions. New strong differential sandwich-type results are also obtained.

**Keywords and phrases:**  $p$ -valent function, differential subordination, differential superordination, strong subordination, strong superordination, fractional derivative operator.

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