

MEROMORPHIC FUNCTIONS WITH MISSING AND  
ALTERNATING COEFFICIENTS

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**Abstract.** In this paper, we introduce a new class of meromorphic functions with missing and alternating coefficients. The usual properties such as coefficient inequalities, distortion theorems, the radii of starlikeness and convexity, closure theorem of the functions belonging to this class are obtained.

**MSC 2000.** 30C45.

**Key words.** Meromorphic functions, meromorphically starlike, convex functions.

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REFERENCES

- [1] URALEGADDI, B. A. and GANIGI, M. D., *A certain class of meromorphically starlike functions with positive coefficients*, Pure Appl. Math. Sci., **26** (1987), no. 1-2, 75–81.
- [2] URALEGADDI, B. A. and SOMANATHA, C., *Certain differential operators for meromorphic functions*, Houston J. Math., **17** (1991), no. 2, 279–284.
- [3] URALEGADDI, B. A. and SOMANATHA, C., *New criteria for meromorphic starlike univalent functions*, Bull. Austral. Math. Soc., **43** (1991), no. 1, 137–140.
- [4] POMMERENKE, CH., *Über einige klassen meromorpher schlichter funktionen*, Math. Z., **78** (1962), 263–284.
- [5] POMMERENKE, CH., *On meromorphic starlike functions*, Pacific J. Math., **13** (1963), 221–235.
- [6] CLUNIE, J., *On meromorphic schlicht functions*, J. London Math. Soc., **34** (1959), 215–216.
- [7] SRIVASTAVA, H. M. and OWA, S. (eds.), *Current Topic in Analytic Function Theory*, World Scientific Publishing, New Jersey, 1992.
- [8] MILLER, J., *Convex meromorphic mappings and related functions*, Proc. Amer. Math. Soc., **25** (1970), 220–228.
- [9] DARUS, M., *Meromorphic functions with positive coefficients*, IJMMS. Inter. Jour. Math. Math. Sci., **6** (2004), 319–324.
- [10] MOGRA, M. L., REDDY, T. R. and JUNEJA, O. P., *Meromorphic univalent functions with positive coefficients*, Bull. Austral. Math. Soc., **32** (1985), no. 2, 161–176.
- [11] AOUF, M. K., *On a certain class of meromorphic univalent functions with positive coefficients*, Rend. Math. Appl., **11** (1991), no. 2, 209–219.
- [12] CHO, N. E., LEE, S. H. and OWA, S., *A class of meromorphic univalent functions with positive coefficients*, Kobe J. Math., **4** (1987), no. 1, 43–50.
- [13] DUREN, P. L., *Univalent functions*, Grundlehren der mathematischen Wissenschaften, vol. **259**, Springer-Verlag, New York, 1983.
- [14] GOEL, R. M. and SOHI, N. S., *On a class of meromorphic functions*, Glas. Math. Ser. III, **17(37)** (1982), no. 1, 19–28.

- [15] JOSHI, S. B., *On class of meromorphic univalent functions with missing and alternating coefficients*, Scientific Review (1996), no. 21-22, 41–45.
- [16] BAJPAI, S. K., *A note on a class of meromorphic univalent functions*, Rev. Roumaine Math. Pures Appl., **22** (1977), no. 3, 295–297.
- [17] OWA, S. and PASCU, N. N., *Coefficient inequalities for certain classes of meromorphically starlike and meromorphically convex functions*, JIPAM. J. Inequal. Pure Appl. Math., **4** (2003), no. 1, Article 17, 1–6.
- [18] ROYSTER, W. C., *Meromorphic starlike multivalent functions*, Trans . Amer. Math. Soc., **107** (1963), 300–308.
- [19] NEHARI, Z. and NETANYAHU, E., *On the coefficients of meromorphic schlicht functions*, Proc. Amer. Math. Soc., **8** (1957), 15–23.

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