# Evaluation of skew rational functions

## M. Aryapoor

*Mälardalen University, Eskilstuna, Sweden*

### Abstract

The method of evaluating skew polynomials, introduced by T.Y. Lam and A. Leroy [3], is a natural extension of evaluating ordinary polynomials and has found interesting applications. In this talk, we discuss how one can extend their method of evaluation to skew rational functions, that is, quotients of skew polynomials [2]. As an application, we discuss an analytic function theory over quaternions [1].

## Keywords

Skew polynomials, skew rational functions.

# References

[1] M. Aryapoor: *Skew analysis over quaternions. I.* arXiv preprint arXiv:2211.07006 (2022).

[2] M. Aryapoor: *Skew-convex function rings and evaluation of skew rational functions.* arXiv preprint, arXiv:2308.12402 (2023).

[3] T.Y. Lam and A. Leroy.: *Vandermonde and Wronskian matrices over division rings.* J. Algebra, 119(2):308–336, 1988.