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Calin I Chindris* (chindrisc@missouri.edu), University of Missouri, Mathematics
Department, Columbia, MO 65211. *A quiver invariant theoretic approach to radial isotropy and
Paulsen's Problem for matrix frames.* Preliminary report.

In this talk, we view matrix frames as representations of quivers and study them within the general framework of quiver invariant theory. We are thus led to consider the large class of semi-stable matrix frames. Within this class, we are particularly interested in radial isotropic and Parseval matrix frames.

Using methods from quiver invariant theory, we first prove a far reaching generalization of Barthe's Radial Isotropy Theorem to matrix frames. With this tool at our disposal, we provide a quiver invariant theoretic approach to Paulsen's problem for matrix frames. We show that for any given ε -nearly equal-norm Parseval frame \mathcal{F} of matrices with d rows, there exists an equal-norm Parseval matrix frame \mathcal{W} such that the square of the distance between \mathcal{F} and \mathcal{W} is bounded from above by $26\varepsilon d^2$.

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