1107-05-88   **Rachel E Locke** (`rlocke2@masonlive.gmu.edu`), Department of Mathematical Sciences, George Mason University, 4400 University Drive, Fairfax, VA 22030, and **Walter D Morris*** (`wmorris@gmu.edu`), Department of Mathematical Sciences, George Mason University, 4400 University Drive, Fairfax, VA 22030. *A Mihalisin - Klee Theorem for Fans.*

The Mihalisin - Klee Theorem states that an orientation of a 3-polytopal graph is induced by an affine function on some 3-polytope realizing the graph if the orientation is acyclic, has a unique source and a unique sink, and admits three independent monotone paths from the source to the sink. We replace the requirement that the orientation is acyclic with the assumption that it has no directed cycle contained in a face of the orientation, and show that such orientations are induced by 3-dimensional fans. (Received January 05, 2015)