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Dillon Mayhew* (dillon.mayhew@msor.vuw.ac.nz), **Carolyn Chun**, **Geoff Whittle** and **Stefan van Zwam**. *Fragile matroids*. Preliminary report.

Let M and N be matroids. We say that M is N -fragile if, for every element e in M , either $M \setminus e$ or M/e does not have an N -minor.

The notion of fragility is not a new one. It appears, more or less explicitly, in work by Truemper, by Oxley, and by Kingan and Lemos. It also plays an important (but implicit) role in the excluded-minor characterization of $\text{GF}(4)$ -representable matroids, due to Geelen, Gerards, and Kapoor. It is this application to excluded-minor characterizations that motivates us to study the structure of fragile matroids.

This talk will provide an overview of fragility and its applications, and a survey of recent progress. (Received September 21, 2010)