Tight multimatroids

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We introduce the class of tight multimatroids. This class contains the 2–matroids associated to even delta-matroids, the 3–matroids associated to 4–regular graphs and the 2–matroids associated to evenly directed 4-regular graphs. The local properties of a tight multimatroid in the vicinity of a base are reflected by a fundamental graph, like in matroid theory. We describe how the fundamental graph is transformed when the base is modified. As an application we derive some connectivity properties of tight multimatroids.