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*Quandles and tangle embeddings*. Preliminary report.

For a given tangle  $T$  and the link  $L$  we consider the problem whether  $T$  embeds into  $L$ . Some of the questions concerning mechanisms of DNA recombination can be answered using criteria for tangle embeddings. This, in particular, makes it important to develop obstructions for embeddings of tangles into links. We use quandles and their homology to derive such obstructions. Our results concern both classical and virtual categories. (Received January 30, 2006)