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Brendan Nagle* (bnagle@usf.edu), 4202 E Fowler AVE, CMC342, Tampa, FL 33620. *On rainbow cycles in edge-colored graphs.*

Let $G = (V, E)$ be an n -vertex edge-colored graph. In 2013, H. Li proved that if every vertex $v \in V$ is incident to at least $(n + 1)/2$ distinct colors, then G admits a rainbow triangle. We prove that the same degree condition ensures a rainbow ℓ -cycle C_ℓ whenever $n \geq 432\ell$, where this result is sharp for all odd integers $\ell \geq 3$. To ensure a rainbow even cycle C_ℓ , we show that $(n + 1)/2$ (in the context above) can be replaced by $(n + 5)/3$ provided n is sufficiently large, and that this condition is sharp. We also consider some variants of these problems for directed cycles in oriented graphs. These are joint works with A. Czygrinow, T. Molla, and R. Oursler. (Received January 18, 2021)