1086-05-2079 **Andrzej Czygrinow**, **H. A. Kierstead*** (hal.kierstead@me.com) and **Theodore Molla**. *On directed versions of the Corrádi-Hajnal Corollary.* Preliminary report.

Corrádi and Hajnal proved that every graph G on $3k$ vertices with $\delta(G) \geq 2k$ has a C_3-factor. Wang proved that every directed graph G on $3k$ vertices with minimum total degree $\delta_t(G) := \min_{v \in V}(deg^-(v) + deg^+(v)) \geq 3(3k-1)/2$ has a DC_3-factor, where DC_3 is the directed 3-cycle. The degree bound in Wang's result is tight. However, we prove that for all integers $a \geq 1$ and $b \geq 0$ with $a + b = k$, every directed graph G on $3k$ vertices with $\delta_t(G) \geq 4k - 1$ has a factor consisting of a copies of TC_3 and b copies of graphs DC_3, where TC_3 is the transitive tournament on three vertices. In particular, using $b = 0$, there is a TC_3-factor of G, and using $a = 1$, it is possible to obtain a DC_3-factor of G by reversing just one edge of G. All these results are phrased and proved more generally in terms of undirected multigraphs.

We conjecture that every directed graph G on $3k$ vertices with minimum semidegree

$$\delta_0(G) := \min_{v \in V} \min\{deg^-(v), deg^+(v)\} \geq 2k$$

has a DC_3-factor, and prove that this is asymptotically correct. (Received September 24, 2012)