## 1138-05-210 Joao Paulo Costalonga, Talmage James Reid\* (mmreid@olemiss.edu) and Haidong Wu.

On Vertex-Disjoint Cycles and a Fixed Edge in a 3-connected Graph. Preliminary report.

Dirac classified the 3-connected graphs with no pair of vertex-disjoint cycles. We provide analogous theorems that relate to a fixed edge in a graph. For example, we determine when a 3-connected graph contains an edge that possesses the property that there exists no pair of vertex-disjoint cycles whose union contains the edge. (Received February 09, 2018)