1065-05-150 **Wenliang Tang*** (victor_251@math.wvu.edu). *Edge Spectrum of Small Path.*

Let H be a simple graph, G is called an H-saturated graph if H is not a subgraph of G, but add any one edge e outside of G back will produce a copy of H. Denote by $SAT(n, H)$ the set of all H-saturated graph G with order of n. Then the saturation number $sat(n, H)$ is defined as $\min_{G \in SAT(n,H)} |E(G)|$, and extremal number $ex(n, H)$ is defined as $\max_{G \in SAT(n,H)} |E(G)|$. A natural question is whether we can find an H-saturated graph with m edges for any $sat(n, H) \leq m \leq ex(n, H)$. In this paper we investigate the edge spectrum for the case of small path P_5 and P_6. (Received September 12, 2010)