SULFUR AND ASH REMOVAL FROM COALS BY HIGH INTENSITY-HIGH GRADIENT MAGNETIC SEPARATION.

C. J. Lin, Y. A. Liu, D. L. Vives, M. J. Oak and G. E. Crow.
Department of Chemical Engineering, Auburn University, Auburn, Alabama 36830.

In this paper, the reported experimental data on the removal of sulfur and ash from coals by magnetic separation are reviewed and analyzed. New experimental results obtained on the removal of sulfur and ash from dry, wet and liquefied coals by high intensity-high gradient separation at the Coal Conversion and Magnetic Separation Laboratories, Department of Chemical Engineering, Auburn University, are presented. The effect of operating conditions on the grade and recovery of the separation will be quantitatively discussed. A quantitative assessment of the technical and economic feasibility of applying magnetic separation to the desulfurization and deashing of coals is presented. The needs and opportunities in the future research and development work are also suggested.