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conference reports

25th Intermag Conference
14-17 April, Tokyo, Japan

Eight papers were presented at the Magnetic Separation Session.

The second paper of the session, by J.H.P. Watson, C.H. Boarman and A.S. Bahaj, entitled 'Magnetic Filtration Studies using a Permanently Magnetized Matrix' reported both the results of theoretical studies as well as presenting experimental data in a test cell containing permanently magentized magnetic mesh. Such a cell is used to capture weakly magnetic particles.

The next paper, entitled 'The Effect of Induced Turbulence on Magnetic Capture on a Single Wire at Moderate Reynolds Number', was submitted by J.H.P. Watson, A.S. Bahaj, D. ter Avest, S. Watson and C.H. Boarman. This paper was concerned with the 'downstream' capture of paramagnetic particles on a single wire in the longitudinal configuration.

The fourth paper, entitled 'Theory of Separation in the Helical Flow Superconducting Magnetic Ore Separators', by M.K. Abdelsalam showed excellent agreement between theory and experiment for a slurry of magnetic ore flowing helically around a straight section of a D-shaped superconducting dipole.

'Performance Limits of Open-Gradient Superconducting Separators', presented by J. Kopp, discussed dry open gradient separation in the content of racetrack geometry, coil parameters, and superconducting materials (NbT_i, Nb_3Sn). Separator capacity and total operating costs were also reviewed.

'Treatment of Cold Rolling Coolant for Steel by HGMS', presented by F. Shichi, J. Yano, M. Tsuge, S. Matsumoto and K. Kawashima, discussed the matter of effective removal of iron fines

from coolant as a means to improving the processing of steel sheets. 'Pulverized Coal Beneficiation by a Fluidized High Gradient Magnetic Separation Process with Slotted Steel Plates', by T. Oda, T. Takahashi, K. Takaichi and S. Masuda, presented data on the design and performance of these systems. The principal application here, was the de-ashing of industrial coals.

The session was concluded by a paper by S. Karinobu, entitled 'Buildup of Magnetic Flocs containing Plankton on a Single Wire' described single wire studies of the magnetic recovery of plankton from red tides.

These papers have since been published in I.E.E.E. Transactions on Magnetics, Volume MAG-23, Number 5, (1987) pages 2752-2787.