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AIMS AND SCOPE

The main aim of **Reviews in Chemical Engineering** is to develop new insights and to promote interest and research activity in chemical engineering and applied chemistry, as well as the application of new developments in these areas. The journal publishes authoritative articles of limited scope by leading chemical engineers, applied scientists and mathematicians. Long articles which review an entire field are also occasionally solicited. Because of the broad interest now shown in chemical problems which previously had a more limited appeal, **Reviews in Chemical Engineering** is sure to play a significant role in the growth of the field as a whole.

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**MAGNETIC FIELD ASSISTED FLUIDIZATION – A
UNIFIED APPROACH**
**Part 3: Heat Transfer in Gas-Solid Fluidized Beds - a critical
re-evaluation of the results**

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SUMMARY

The third part of the series concerning the magnetic field assisted fluidization focuses the attention on the heat transfer phenomena. The discussion covers the gas-fluidized beds only. In contrast to the hydrodynamic problems the heat transfer problems (temperature distribution in both the axial and radial directions as well as gas-to-particles and bed-to-immersed surface heat transfer) have paid little more attention. The paper made an attempt to re-examine the data concerning the heat transfer phenomena in gas-fluidized beds of ferromagnetic particles controlled by external magnetic field. Data from various sources have been collected and re-evaluated critically from a unified point of view.

1. INTRODUCTION

The third part of the series considers the heat transfer phenomena in magnetically controlled gas-fluidized beds. Unfortunately, no published papers exist on the problem in liquid-solid and gas-liquid- solid systems. The analysis of the data available in the literature will be done on the basis of the hydrodynamic results commented widely in the first part of the series (Hristov, 2002) and the recent comments of (Hristov, 2000a,b). The analysis will be done on the basis of the well-established results in the field of non-magnetic fluidized beds for better elucidation of the problems.