

Conference abstract PMS05

## **Assessment of Powder Mixing using Positron Emission Tomography and Particle Tracking**

**B. ARMSTRONG <sup>1</sup>, J. SEVILLE <sup>2</sup>, D. PARKER <sup>3</sup>**

<sup>1</sup> Freeman Technology, Malvern, England

<sup>2</sup> School of Engineering, University of Warwick, Warwick, England

<sup>3</sup> School of Physics & Astronomy, University of Birmingham, Birmingham, England

E-mail: J.P.K.Seville@warwick.ac.uk (J. Seville)

Sci Pharm. 2010; 78: 632

doi:10.3797/scipharm.cespt.8.PMS05

---

Efficient and effective powder mixing is an essential part of pharmaceutical manufacture. Positron emitting isotopes enable particles to be followed singly or in groups during mixing processes, using Positron Emission Particle Tracking (PEPT) or Positron Emission Tomography (PET) respectively. This paper shows how the two techniques can be adapted to pharmaceutical mixing operations and describes their application to mixing in V-mixers and bin-blenders. PEPT enables particle trajectories to be determined and methods of using trajectory information to quantify mixing are described.

---