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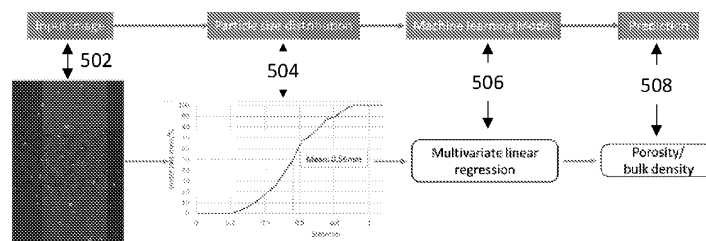


Figure 5

(57) Abstract: Disclosed is a system for calculating particulate material packing porosity. The system receives data comprising particulate material dimensions, images of particulate material and packing density. It then applies a machine learning model(s) to the data to learn a distribution of particulate material dimensions against packing porosity and image features corresponding to each said predetermined quality measure on of which is purity. It then detects dimensions of a new particulate material from an image of the new particulate material, and determines packing porosity by applying the distribution to the dimensions of the new particulate material. The system also classifies the new particulate material into a new particulate material classification, based on predetermined quality measures of the new particulate material.

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