

ABSTRACT

A CT scanning system is provided, including: a conveying device (3), configured to move a scanned object (30) in a scanning channel (31) in a conveying direction; a distributed ray source (1) including m target points (10), where the m target points (10) are configured to be activated in a predetermined order to emit ray beams, m is a positive integer greater than or equal to 2, the ray beams emitted by at least one of the m target points (10) is modulated into a first ray beam having a first energy, and the ray beams emitted by at least another of the m target points (10) is modulated into a second ray beam having a second energy, where the first energy is lower than the second energy; a detector array (2) configured to generate first projection data in response to the first ray beam passing through the scanned object (30), and generate second projection data in response to the second ray beam passing through the scanned object (30); and an image reconstruction device (4) configured to generate a computed tomography image of the scanned object (30) according to the first projection data and the second projection data. The distributed ray source (1) is configured to rotate around a first axis when the scanned object (30) is scanned, and the first axis is parallel to the conveying direction.