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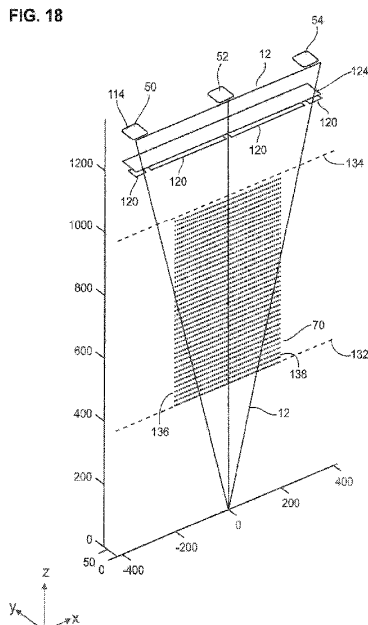
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(54) **Title:** METHOD FOR CAPTURE OF SMALL-ANGLE SCATTER OVER WIDE FIELDS OF VIEW

FIG. 18



(57) Abstract: Estimate material coherent scatter form factors for voxels within a scan object by exposing a series of slices of the scan object to an X-ray fan beam within a coherent scatter scanner. Capturing coherent scatter data at a least two X-ray detector modules that are limited to a small-angle field of view by at least one detector-side angle limiting element to provide for capture of small-angle scatter over a wide field of view. Combining the coherent scatter data from the at least two X-ray detector modules to generate an aggregated collection of estimated material coherent scatter form factors for at least some voxels. Combining the aggregated collection of estimated material coherent scatter form factors with a model of aggregate items that clusters voxels in the scan object into model items. Using the aggregated collection of estimated material coherent scatter form factors to estimate a material type for individual model items.

[Continued on next page]

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