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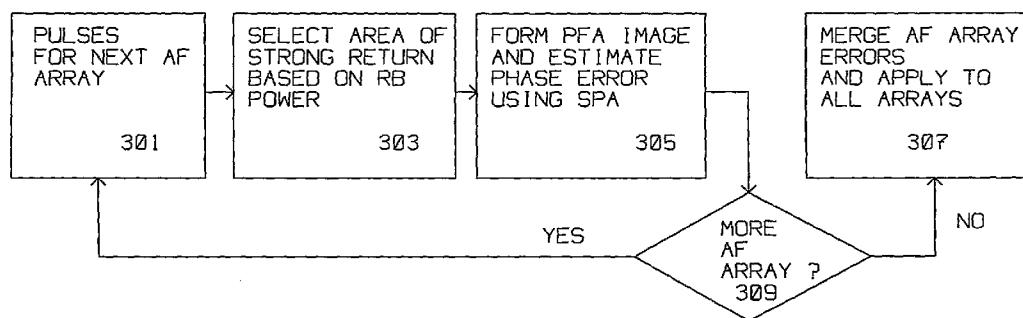
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(54) Title: EFFICIENT AUTOFOCUS METHOD FOR SWATH SAR



(57) Abstract: A moving radar (1200) generates a search mode synthetic aperture image of a patch from periodic pulse returns reflected from the patch. The patch is imaged from radar returns derived from two or more overlapping arrays. A strong scatterer is located within each array, then the data from each array is motion compensated with respect to the motion of the radar and the strong scatterer. The motion compensated results for each array are autofocused to derive a phase error for each array. Using the phase error for each array, a connected phase error estimate is computed, added to the phase error of each array to minimize the differences between phases in the overlap between arrays insuring that there is no or minimal phase discontinuity in the overlap region between arrays. Avoiding phase discontinuity yields a clear SAR image of the combination of arrays rendering the patch.

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