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(54) Title: IMPROVED STRUCTURE IDENTIFICATION USING SCATTERING SIGNATURES

(57) Abstract: A method of pruning a reference library of signatures and corresponding known structure parameter vector, each signature comprising a reference signal vector, comprising: for a given reference signal vector, interpolating a parameter vector assuming that the given reference signal vector and its corresponding parameter vector were deleted from the reference library, and deleting the given reference signal vector and the corresponding parameter vector if an interpolating error between the corresponding parameter vector and the interpolated parameter vector is less than a threshold value. Also a method of accessing an indexed reference library of signatures and corresponding known structure parameter vectors, each signature comprising a reference signal vector with the library additionally comprising a plurality of reference signal index vectors, comprising calculating an index vector for an unknown signal, determining error between the index vector for the unknown signal and a reference signal index vector of the library, and identifying as a match candidate for the unknown signal a reference signal vector corresponding to the reference signal index vector if the error is below a predetermined threshold

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