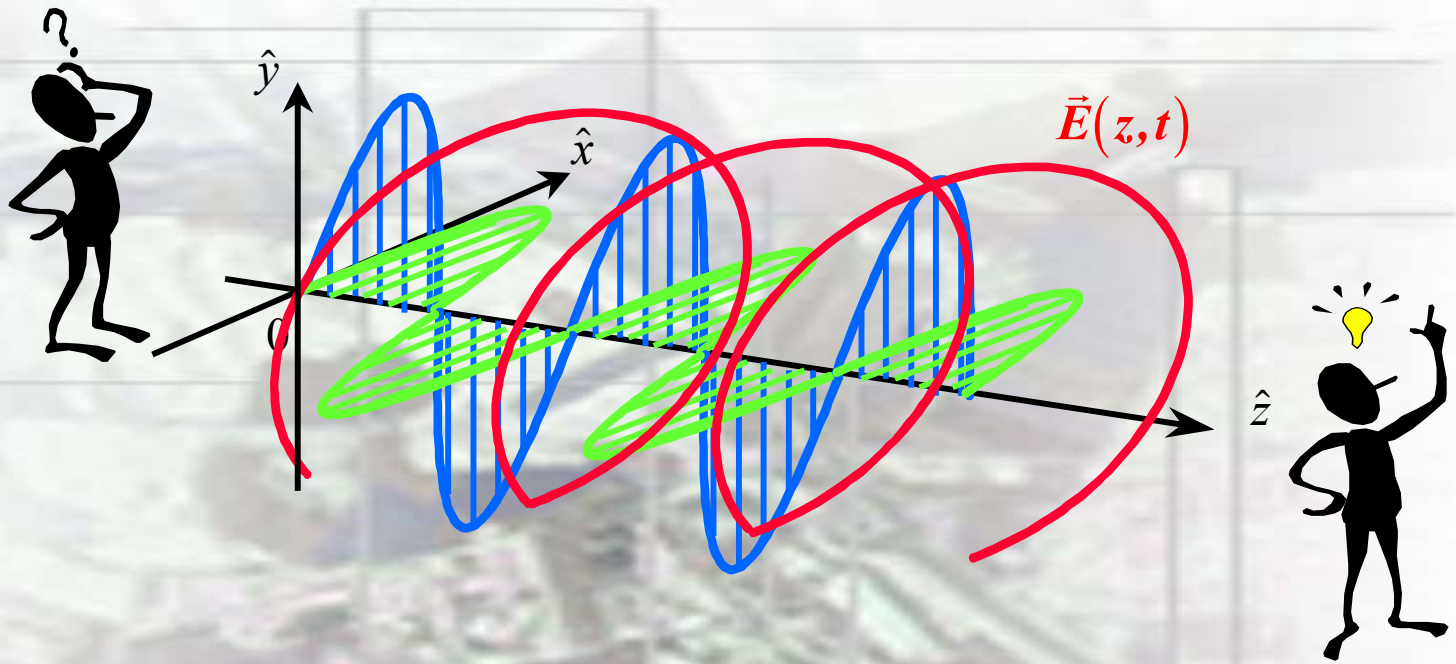


POLARIMETRIC TARGET DECOMPOSITION

POLSAR SPECKLE FILTERING

AVERAGING DATA

SECOND ORDER STATISTICS

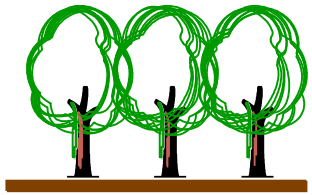
COVARIANCE / COHERENCY MATRICES

SMOOTHING AVERAGING

CONCEPT OF THE

DISTRIBUTED TARGET

TARGET DECOMPOSITIONS



DISTRIBUTED TARGET

KENNAUGH MATRIX $\langle[K]\rangle$
COHERENCY MATRIX $\langle[T]\rangle$

POLARIMETRIC DISTRIBUTED TARGET « *DIMENSION* » = 9

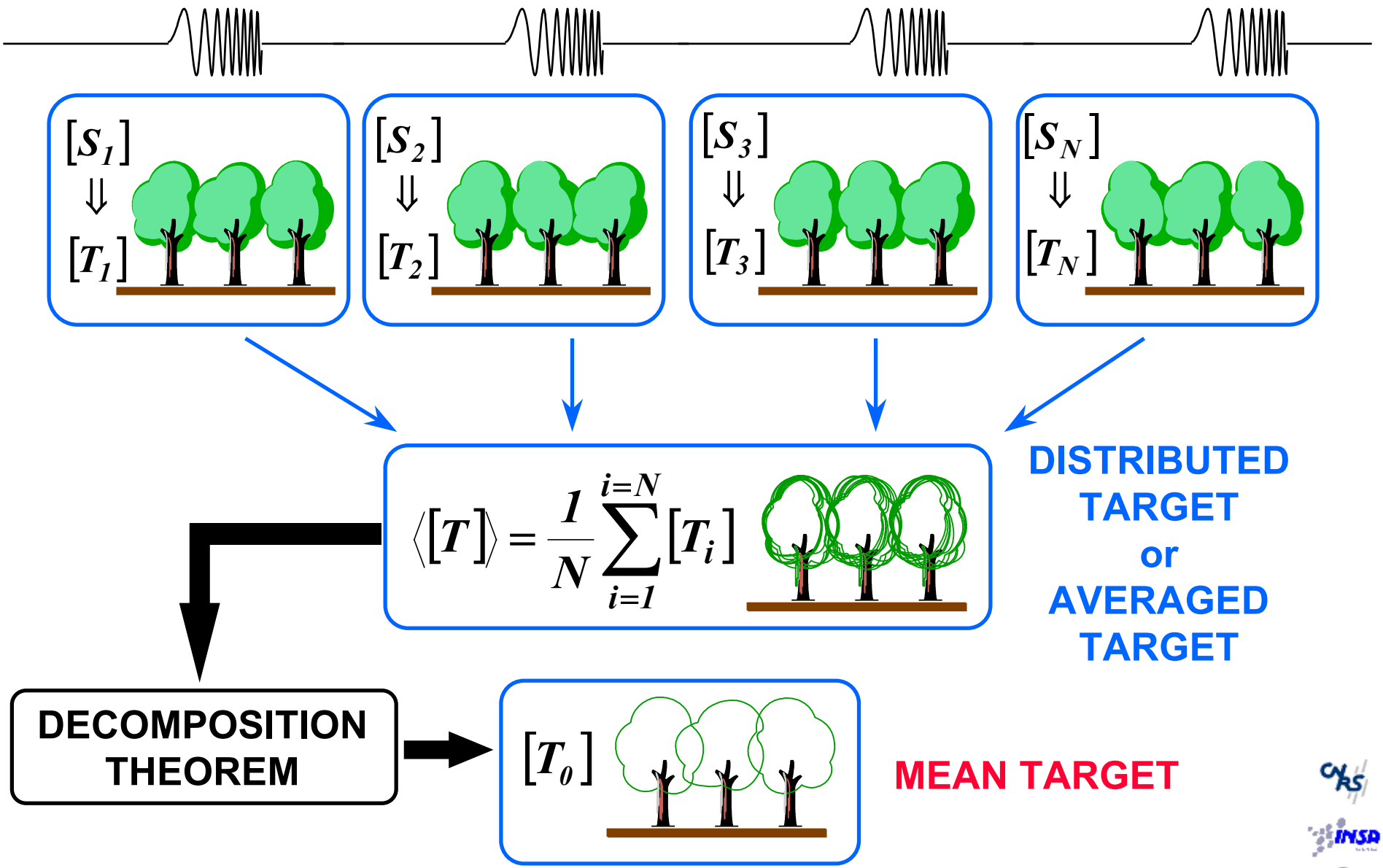
9 REAL INDEPENDANT HUYNEN PARAMETERS
(<A0>,<B0>,<B>,<C>,<D>,<E>,<F>,<G>,<H>)

9 TARGET INEQUATIONS

$$2\langle A_0\rangle\left(\langle B_0\rangle+\langle B\rangle\right)\geq\langle C\rangle^2+\langle D\rangle^2$$
$$2\langle A_0\rangle\left(\langle B_0\rangle-\langle B\rangle\right)\geq\langle G\rangle^2+\langle H\rangle^2$$
$$2\langle A_0\rangle\langle E\rangle\geq\langle C\rangle\langle H\rangle-\langle D\rangle\langle G\rangle$$
$$2\langle A_0\rangle\langle F\rangle\geq\langle C\rangle\langle G\rangle+\langle D\rangle\langle H\rangle$$
$$\langle B_0\rangle^2\geq\langle B\rangle^2+\langle E\rangle^2+\langle F\rangle^2$$

$$\langle H\rangle\left(\langle B_0\rangle+\langle B\rangle\right)\geq\langle C\rangle\langle E\rangle+\langle D\rangle\langle F\rangle$$
$$\langle G\rangle\left(\langle B_0\rangle+\langle B\rangle\right)\geq\langle C\rangle\langle F\rangle-\langle D\rangle\langle E\rangle$$
$$\langle C\rangle\left(\langle B_0\rangle-\langle B\rangle\right)\geq\langle H\rangle\langle E\rangle+\langle F\rangle\langle G\rangle$$
$$\langle D\rangle\left(\langle B_0\rangle-\langle B\rangle\right)\geq\langle F\rangle\langle H\rangle-\langle G\rangle\langle E\rangle$$

TARGET DECOMPOSITIONS



TARGET DECOMPOSITIONS

[S]

COHERENT DECOMPOSITION

E. KROGAGER (1990)

W.L. CAMERON (1990)

[K]

TARGET DICHOTOMY

J.R. HUYNEN (1970)

R.M. BARNES (1988)

[T] [C]

AZIMUTHAL SYMMETRY

EIGENVECTORS BASED DECOMPOSITION

MODEL BASED DECOMPOSITION

S.R. CLOUDE (1985)

W.A. HOLM (1988)

A.J. FREEMAN (1992)

EIGENVECTORS / EIGENVALUES ANALYSIS & MODEL BASED DECOMPOSITION

J.J. VAN ZYL (1992)

EIGENVECTORS / EIGENVALUES ANALYSIS ENTROPY / ANISOTROPY

S.R. CLOUDE - E. POTTIER (1996-1997)