IMN-359

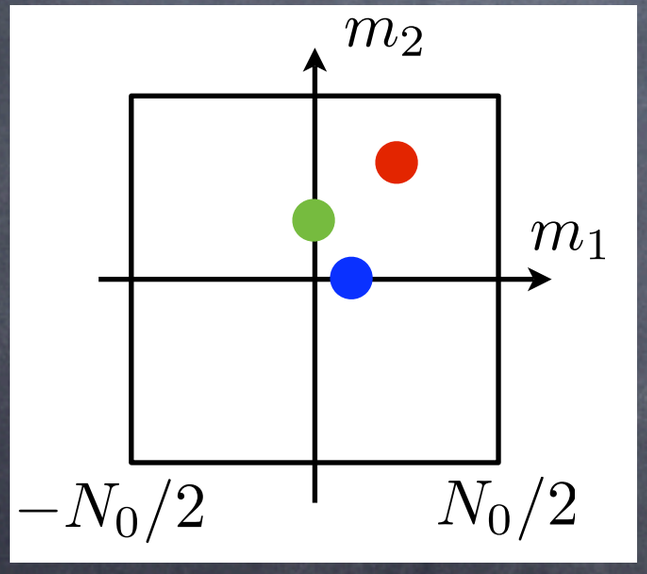
Cours
Quelques diapositives sur la
Transformée de Fourier Discrète

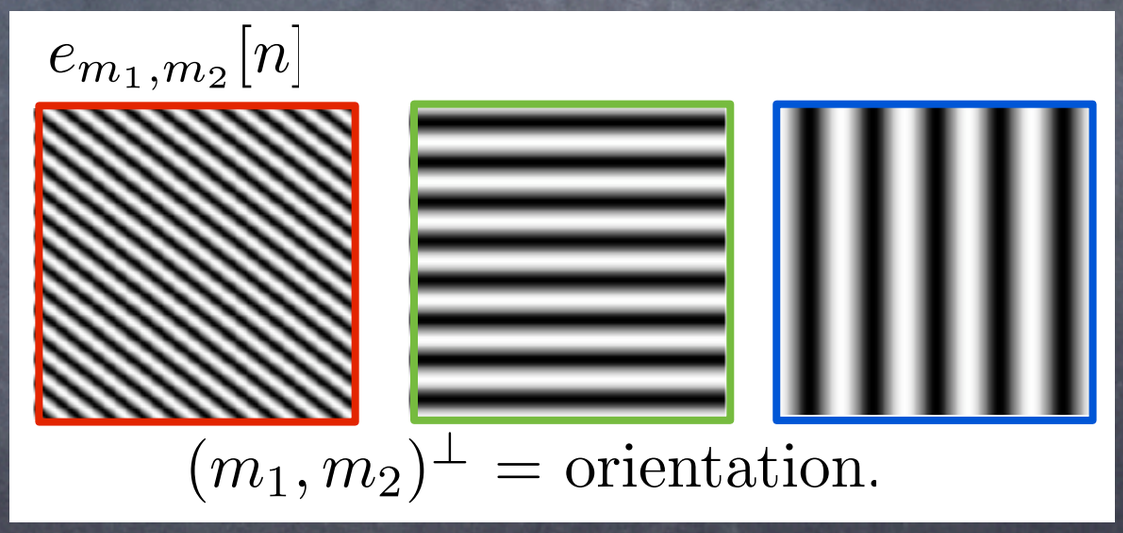
2D discrete Fourier Basis

2D discrete Fourier basis: $N = N_0 \times N_0$ pixels

$$e_m[n] = \frac{1}{\sqrt{N}} e^{\frac{2i\pi}{N_0} m_1 n_1 + \frac{2i\pi}{N_0} m_2 n_2} = e_{m_1}[n_1] e_{m_2}[n_2]$$

Frequency $m = (m_1, m_2) \in \{0, \ldots, N_0 - 1\} \times \{0, \ldots, N_0 - 1\}$

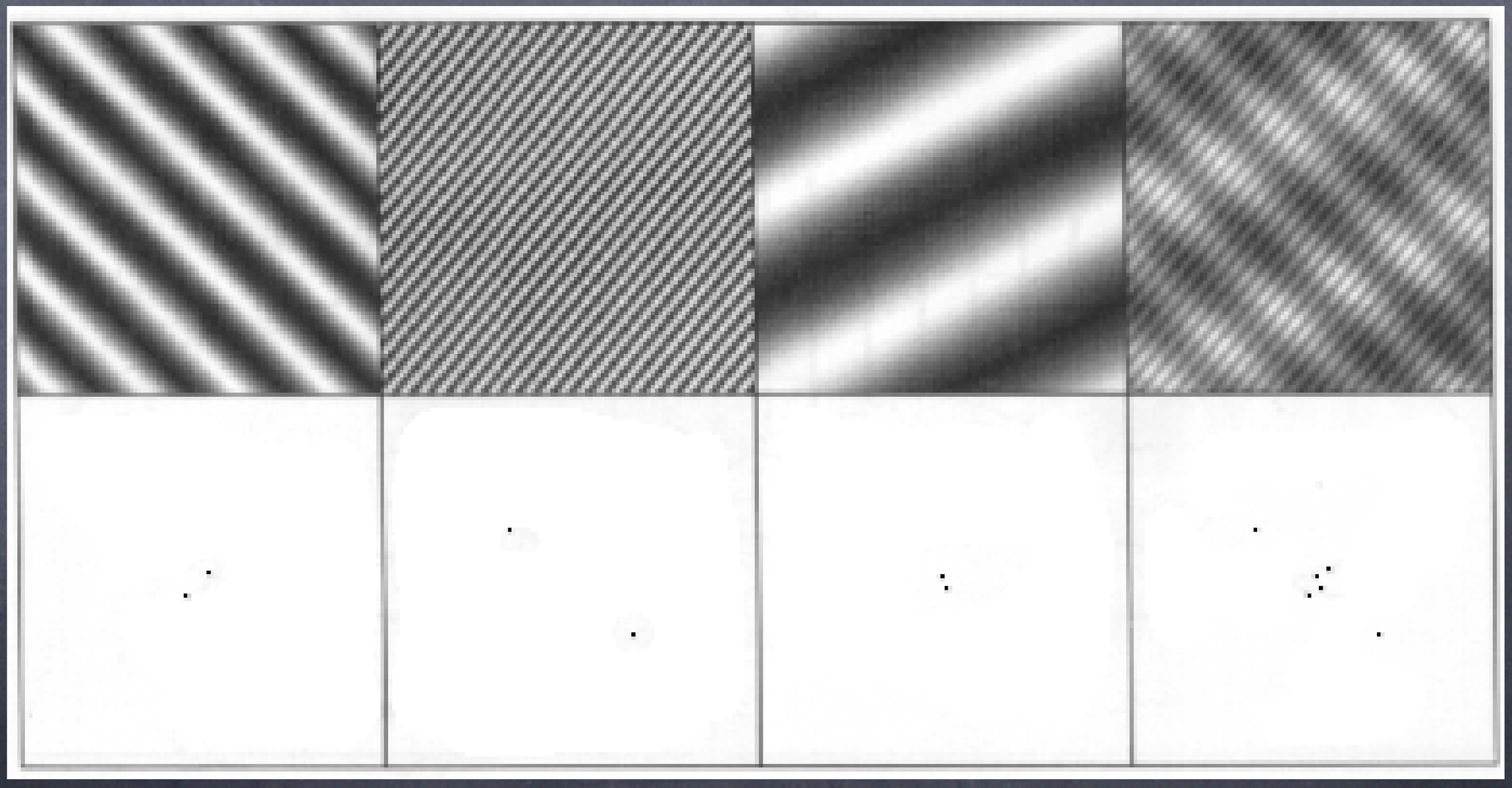




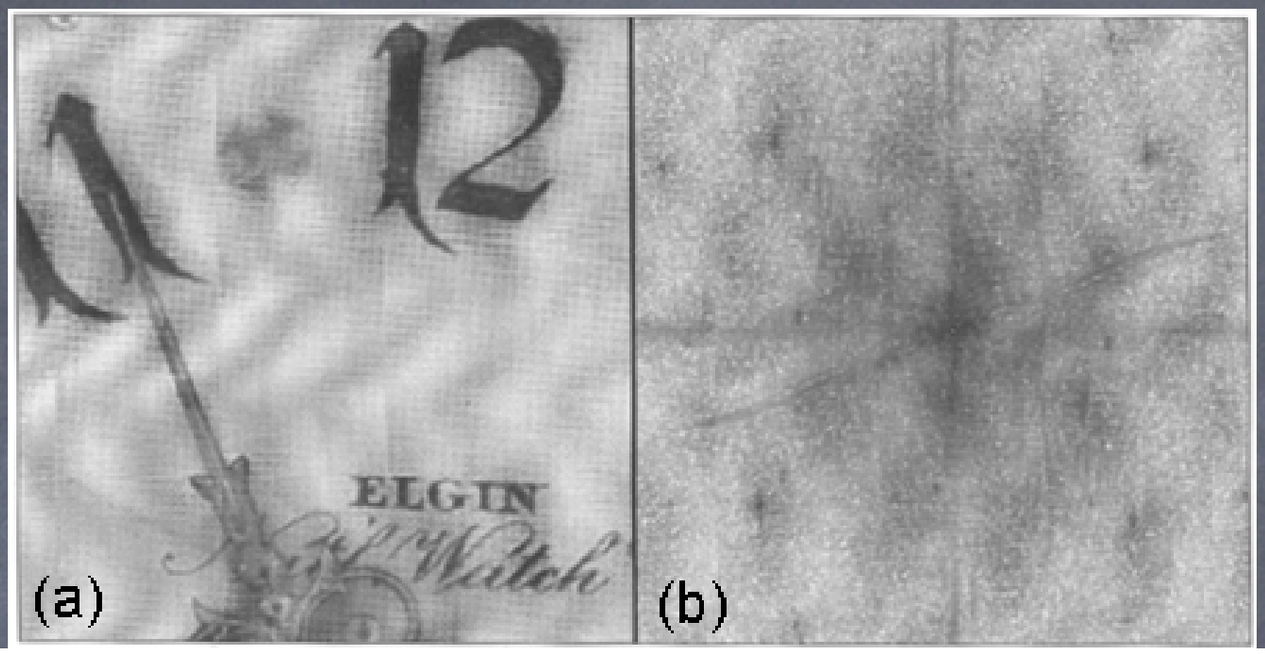
[Peyré, Numerical Tour of Signal Processing]

Images

T.F. des Images

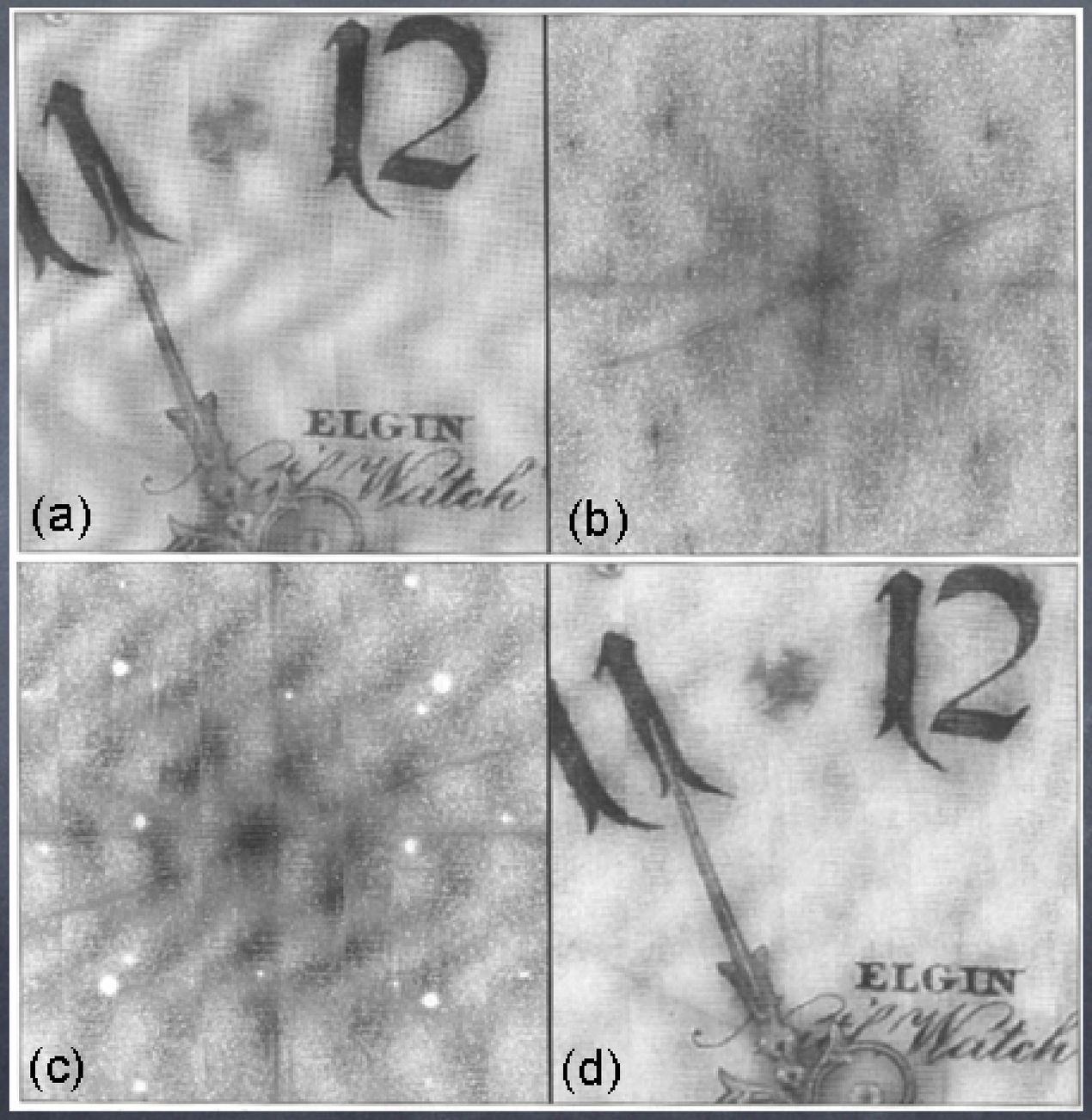


Photocopie originale



T.F.
On voit les étoiles!

Photocopie originale

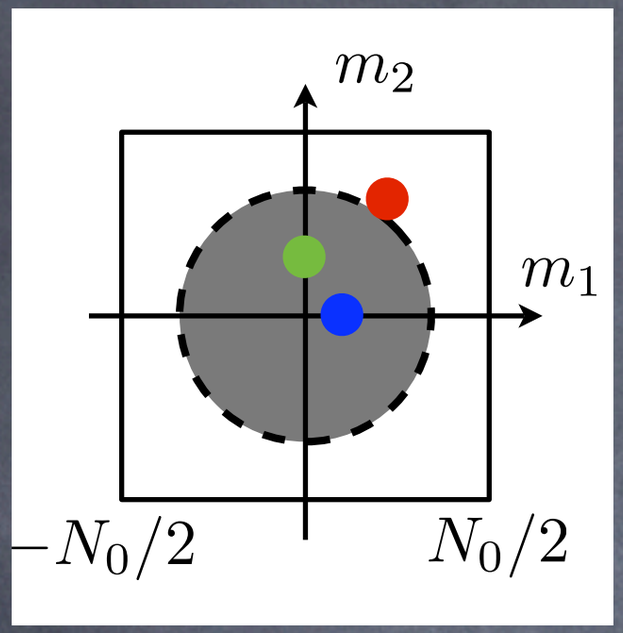


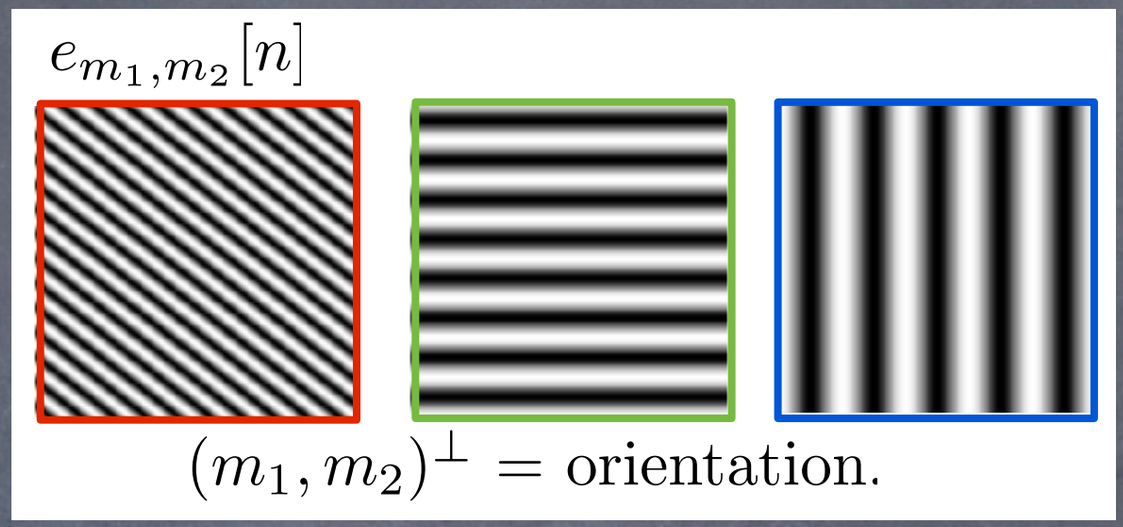
T.F.
On voit les étoiles!

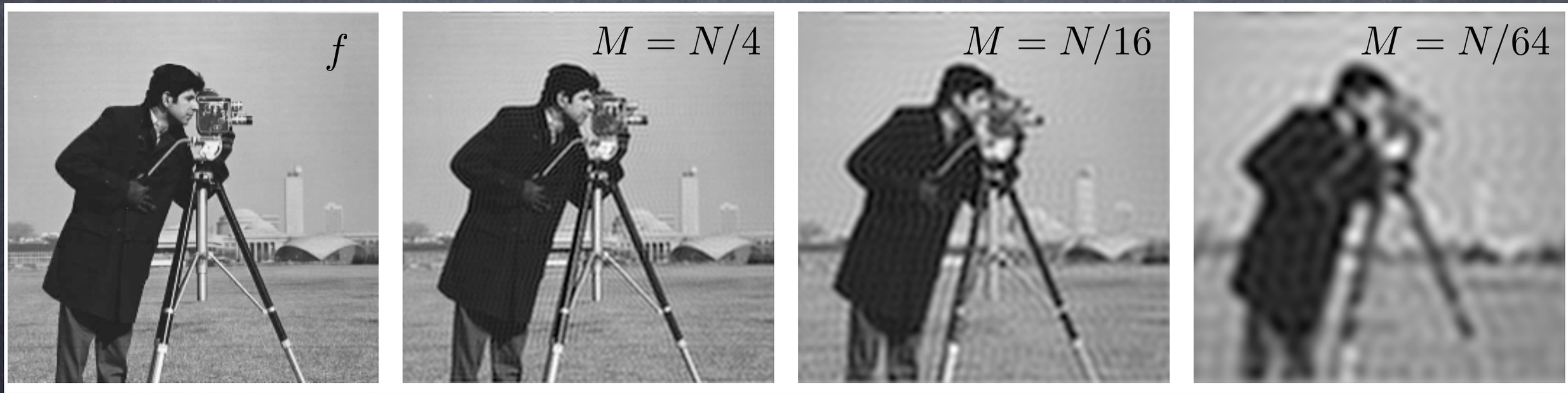
F.T.
Enlevons les étoiles
(coup de gomme à effacer)

T.F.I
Wow!

Fourier & discontinuities







[Peyré, Numerical Tour of Signal Processing]