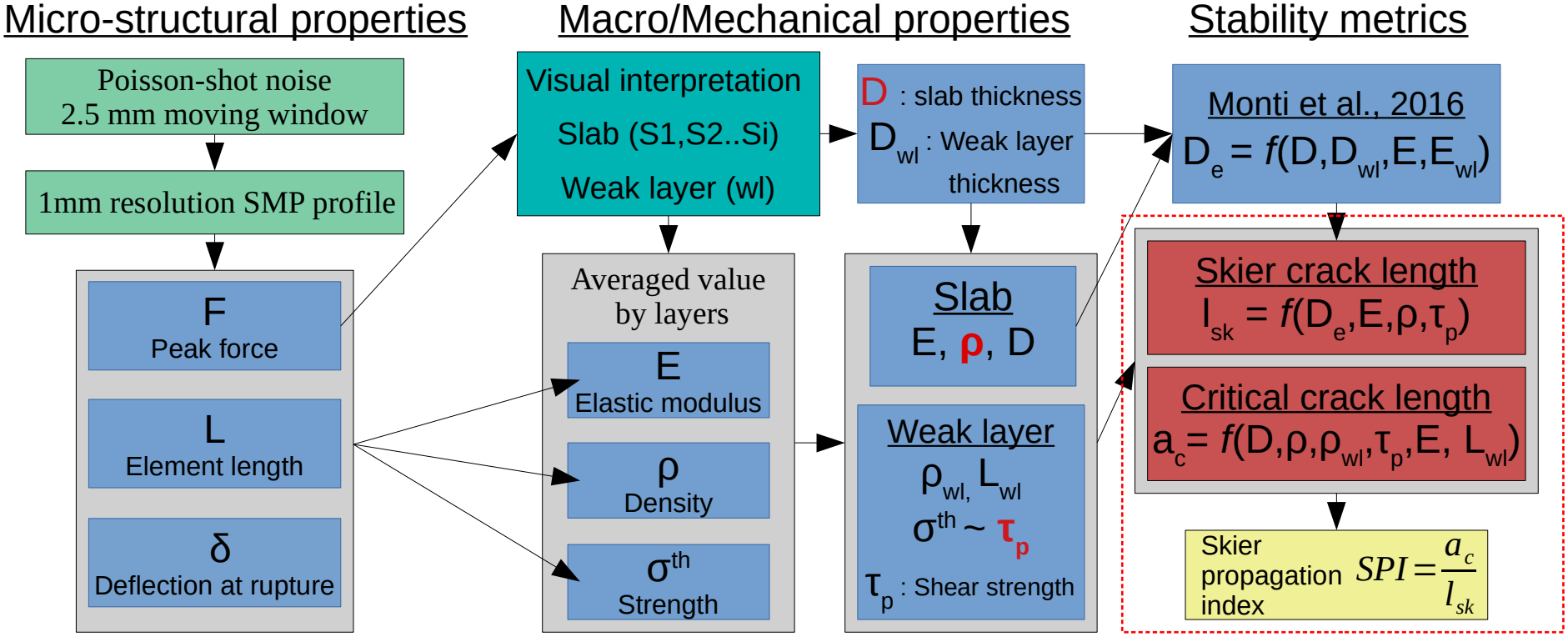
Micro-structural properties
Macro/Mechanical properties
Stability metrics
Poisson-shot noise
2.5 mm moving window
1mm resolution SMP profile
F
Peak force
L
Element length
δ
Deflection at rupture
Visual interpretation
Slab (S1,S2..Si)
Weak layer (wl)
D : slab thickness
D_wl : Weak layer thickness
Averaged value by layers
E
Elastic modulus
ρ
Density
σ^th
Strength
Slab
E, ρ, D
Weak layer
ρ_wl, L_wl
σ^th ~ τ_p
τ_p : Shear strength
Monti et al., 2016
D_e = f(D,D_wl,E,E_wl)
Skier crack length
l_sk = f(D_e,E,ρ,τ_p)
Critical crack length
a_c = f(D,ρ,ρ_wl,τ_p,E, L_wl)
Skier propagation index
SPI = a_c / l_sk