Anexa 10. Fisher-Tippett 3D

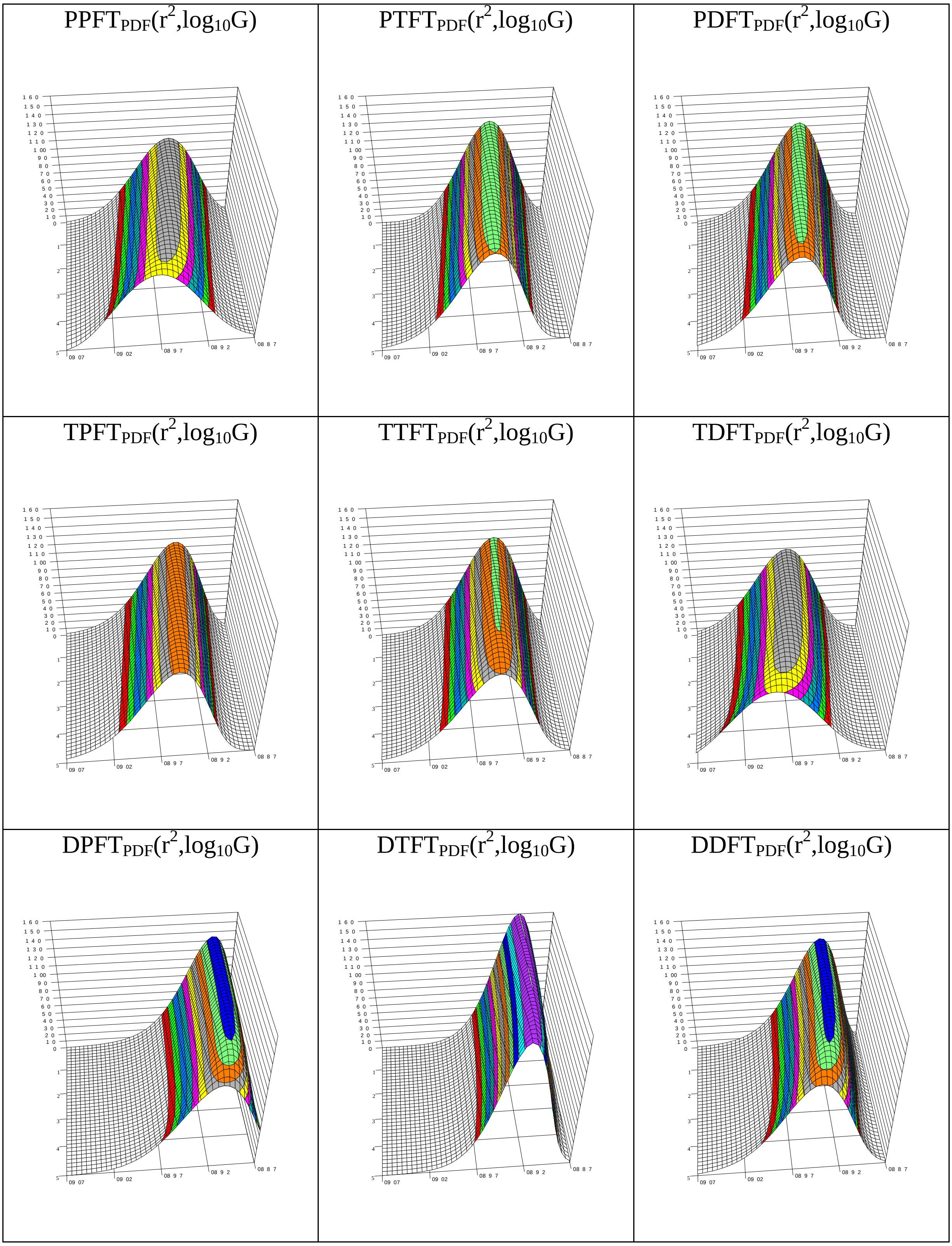

Figura 1. Tendința densității de probabilitate Fisher-Tippett

Legendă:

$$SSFT_{PDF}(x,t)=\frac{1}{\beta(t)}\exp\left(-(1+k(t)\frac{x-\lambda(t)}{\beta(t)})^{-1/k(t)}\right)(1+k\frac{x-\lambda(t)}{\beta(t)})^{-1-1/k(t)}$$

$SS \in \{PP, PT, PD, TP, TT, TD, DP, DT, DD\}$

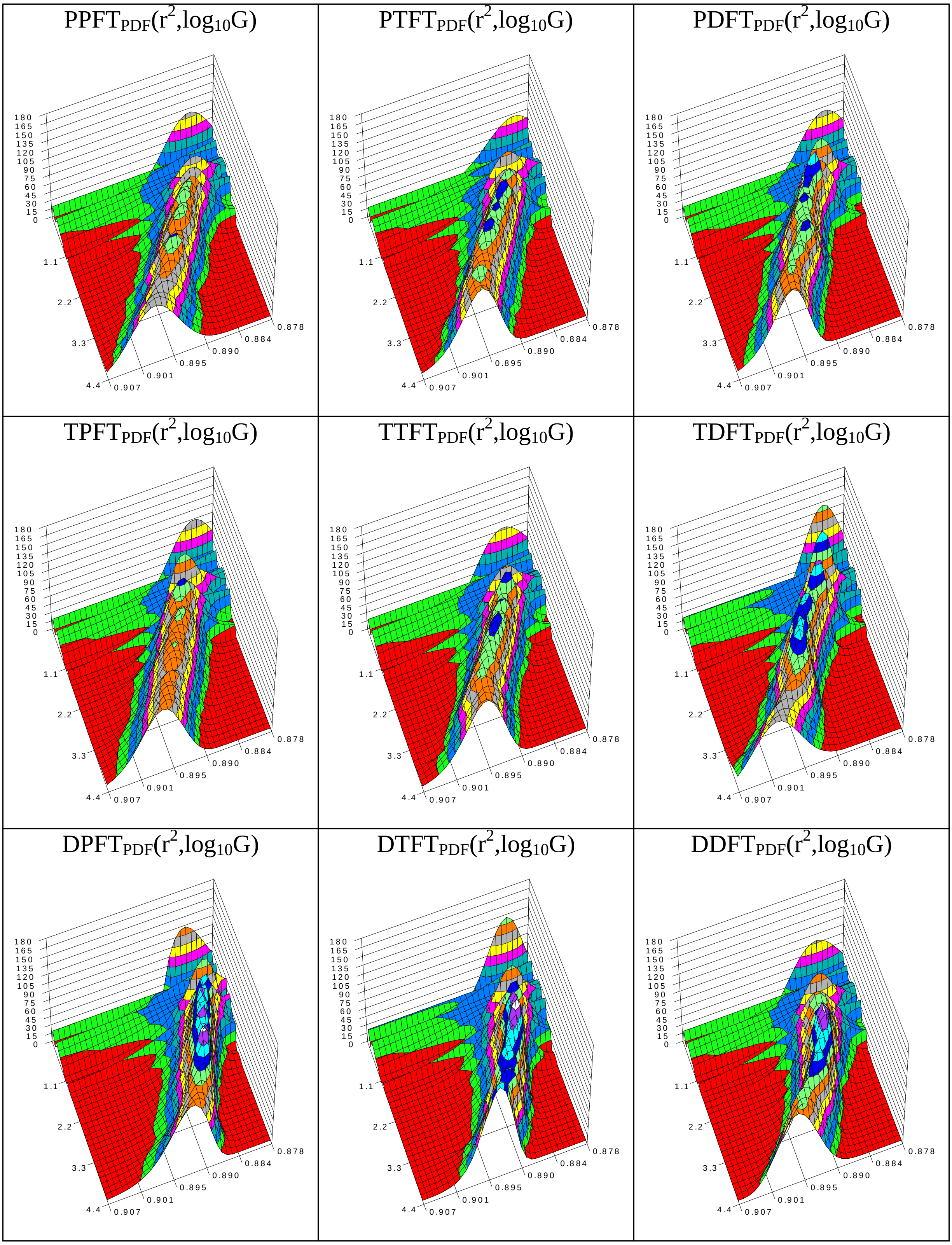

Figura 2. Densitatea de probabilitate Fisher-Tippett estimată direct din observații

Legendă:

$$\mathrm{SSFT}_{\mathrm{PDF}}(x,t)=\frac{1}{\beta(t)}\exp\left(-(1+k(t)\frac{x-\lambda(t)}{\beta(t)})^{-1/k(t)}\right)(1+k\frac{x-\lambda(t)}{\beta(t)})^{-1-1/k(t)}$$

SS $\in$ {PP, PT, PD, TP, TT, TD, DP, DT, DD}

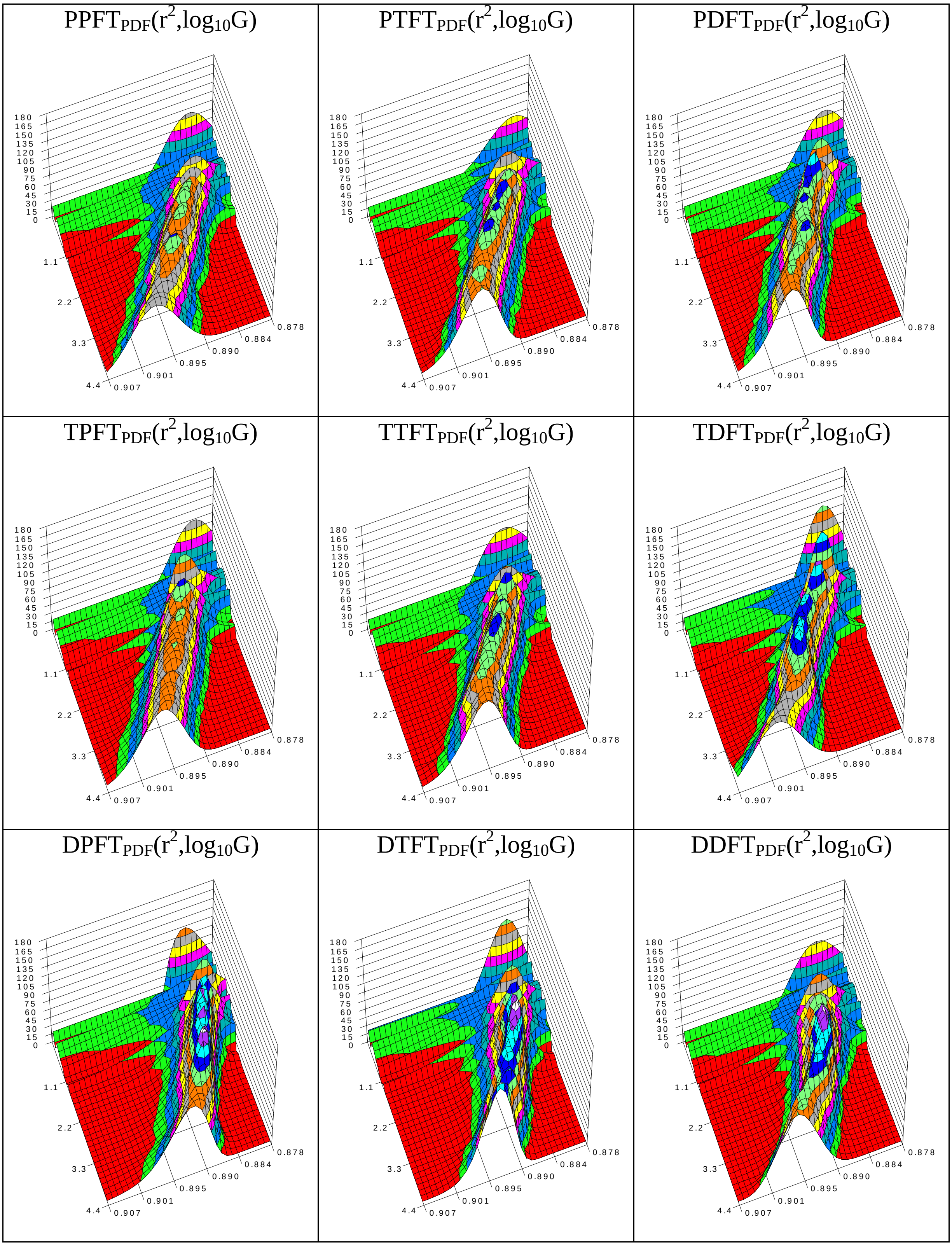

Figura 3. Densitatea de probabilitate Fisher-Tippett: din uniformizare optimală (MSE=min.)

Legendă:

$$SSFT_{PDF}(x,t) = \frac{1}{\beta(t)} \exp\left(-(1 + k(t)\frac{x - \lambda(t)}{\beta(t)})^{-1/k(t)} \right) (1 + k\frac{x - \lambda(t)}{\beta(t)})^{-1-1/k(t)}$$

SS $\in$ {PP, PT, PD, TP, TT, TD, DP, DT, DD}

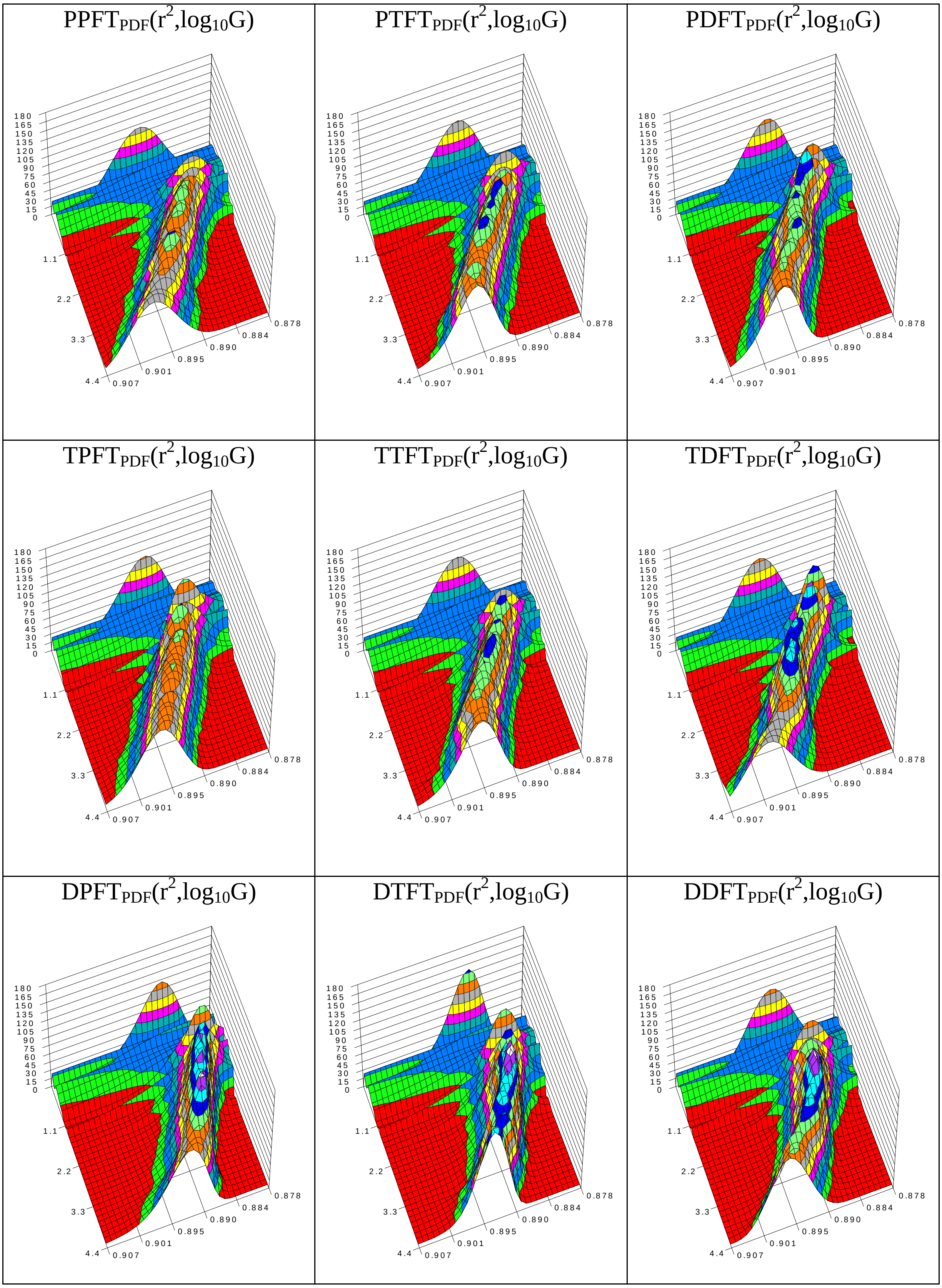

Figura 4. Densitatea de probabilitate Fisher-Tippett: uniformizare din istoria relativ recentă (α=.2)

Legendă:

$$SSFT_{PDF}(x,t) = \frac{1}{\beta(t)} \exp\left(-\left(1 + k(t)\frac{x - \lambda(t)}{\beta(t)}\right)^{-1/k(t)} \right) \left(1 + k\frac{x - \lambda(t)}{\beta(t)}\right)^{-1-1/k(t)}$$

$$SS \in \{PP, PT, PD, TP, TT, TD, DP, DT, DD\}$$

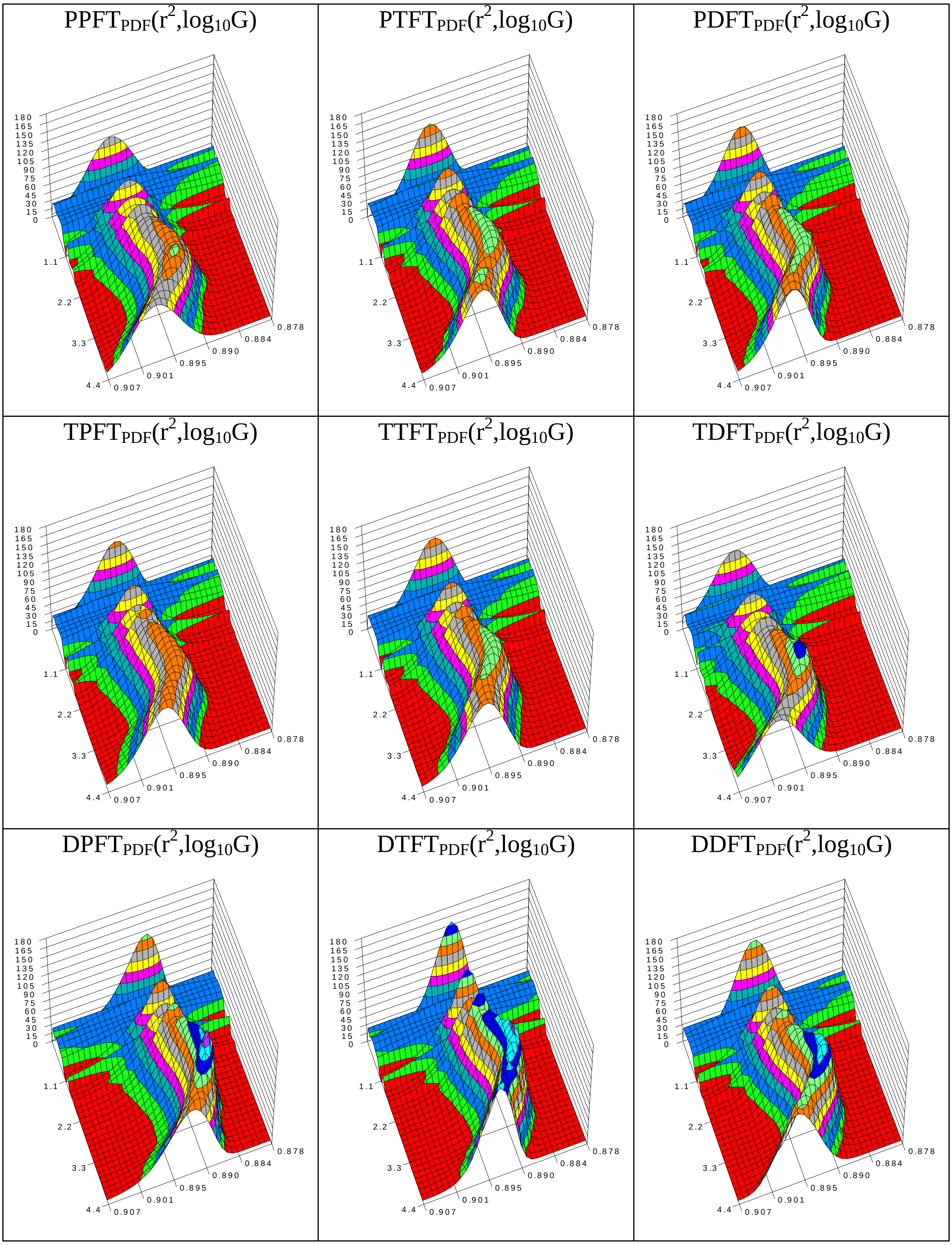

Figura 5. Densitatea de probabilitate FT: uniformizare din istoria relativ îndepărtată (α=.01)

Legendă:

$$SSFT_{PDF}(x,t) = \frac{1}{\beta(t)} \exp\left(-(1+k(t)\frac{x-\lambda(t)}{\beta(t)})^{-1/k(t)}\right)(1+k\frac{x-\lambda(t)}{\beta(t)})^{-1-1/k(t)}$$

SS $\in$ {PP, PT, PD, TP, TT, TD, DP, DT, DD}

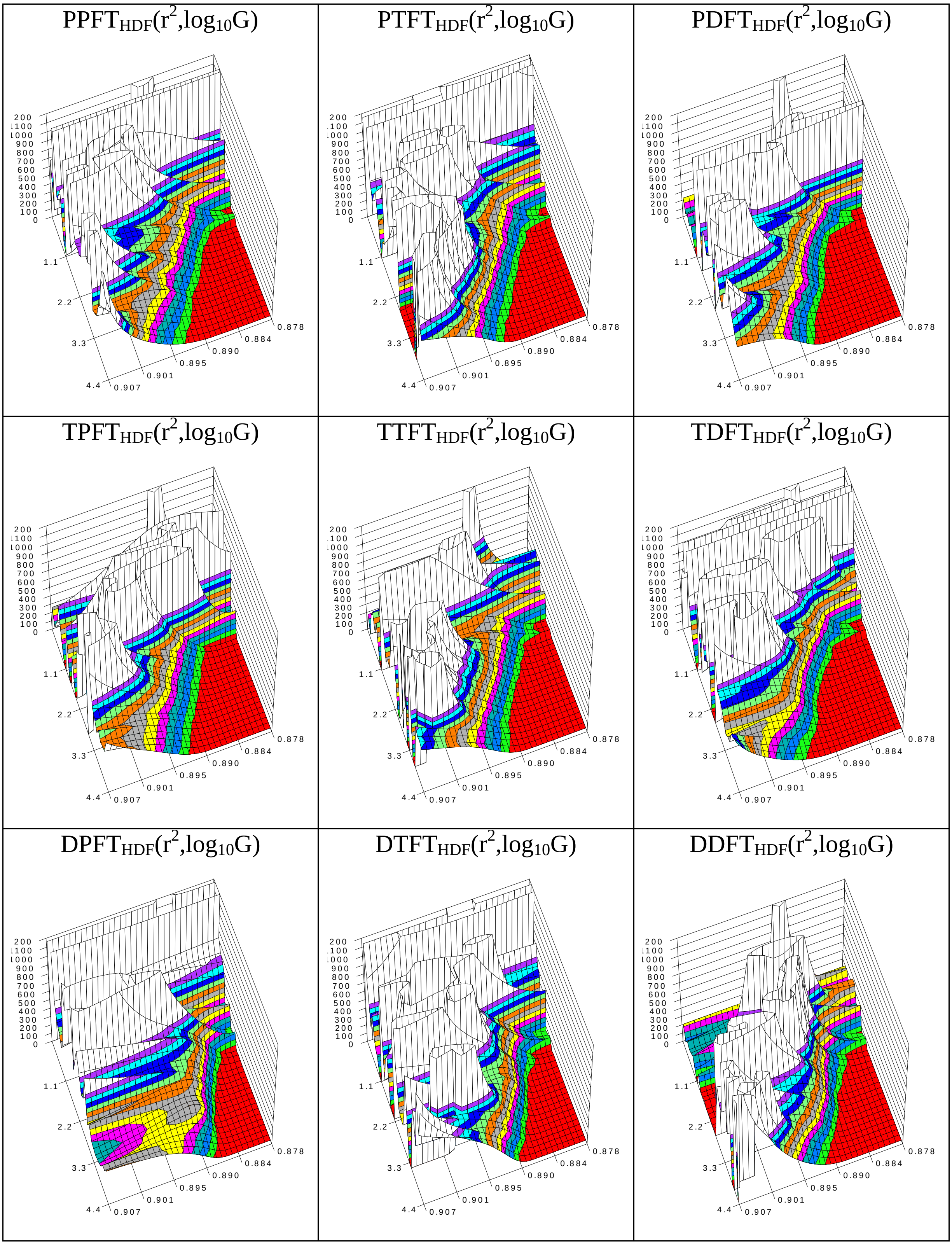

Figura 6. Hazardul estimat direct din observații

Legendă:

$$SSFT_{PDF}(x,t) = \frac{1}{\beta(t)}\exp\left(-(1+k(t)\frac{x-\lambda(t)}{\beta(t)})^{-1/k(t)}\right)(1+k\frac{x-\lambda(t)}{\beta(t)})^{-1-1/k(t)}$$

SS $\in$ {PP, PT, PD, TP, TT, TD, DP, DT, DD}

$$HDF(x,t) = \frac{PDF(x,t)}{1-CDF(x,t)};\ CDF(x,t) = \int_{-\infty}^{x} PDF(w,t)dw$$

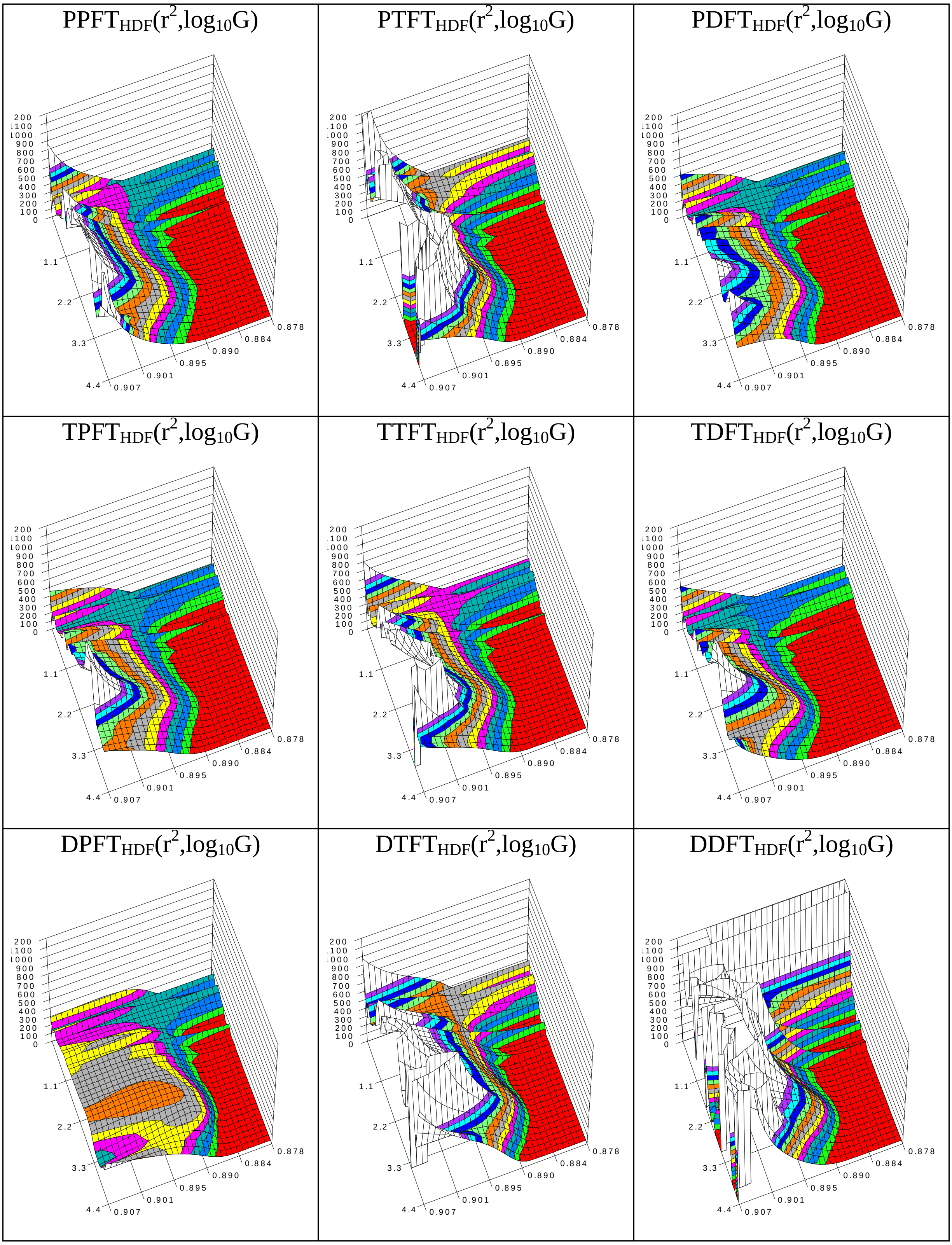

Figura 7. Hazardul profund marcat de istorie (α=0.01)

Legendă:

$$SSFT_{PDF}(x,t)=\frac{1}{\beta(t)}\exp\left(-(1+k(t)\frac{x-\lambda(t)}{\beta(t)})^{-1/k(t)}\right)(1+k\frac{x-\lambda(t)}{\beta(t)})^{-1-1/k(t)}$$

SS $\in$ {PP, PT, PD, TP, TT, TD, DP, DT, DD}

$$HDF(x,t)=\frac{PDF(x,t)}{1-CDF(x,t)};\ CDF(x,t)=\int_{-\infty}^{x}PDF(w,t)dw$$

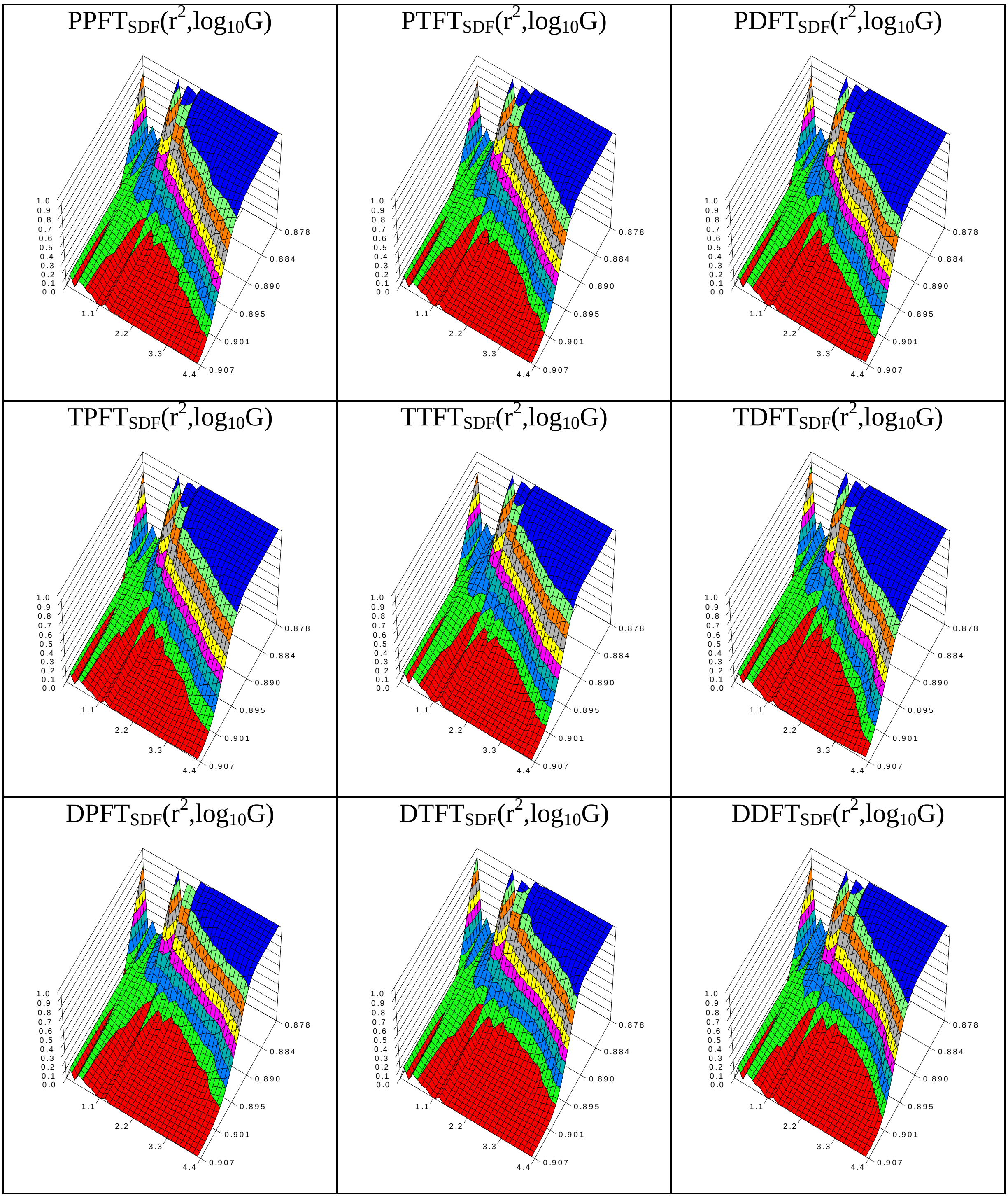

Figura 8. Funcția de Supraviețuire în distribuțiile Fisher-Tippett observate

Legendă:

$$SSFT_{PDF}(x,t) = \frac{1}{\beta(t)} \exp\left(-(1+k(t)\frac{x-\lambda(t)}{\beta(t)})^{-1/k(t)}\right)(1+k\frac{x-\lambda(t)}{\beta(t)})^{-1-1/k(t)}$$

SS $\in$ {PP, PT, PD, TP, TT, TD, DP, DT, DD}

$$SDF(x,t) = \frac{1}{1-CDF(x,t)};\ CDF(x,t) = \int_{-\infty}^{x} PDF(w,t)dw$$