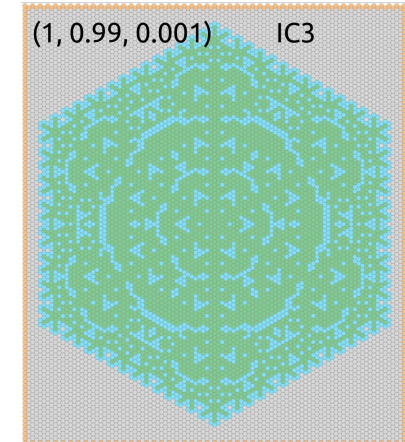
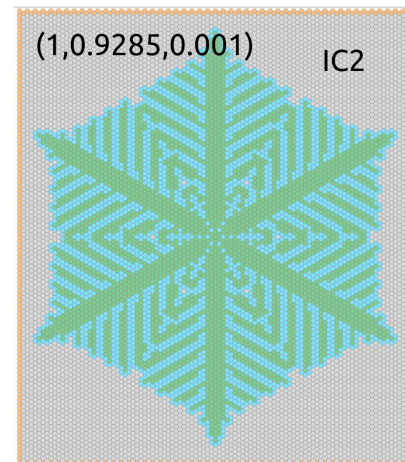
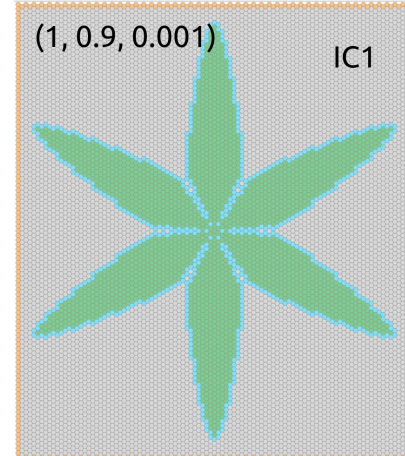
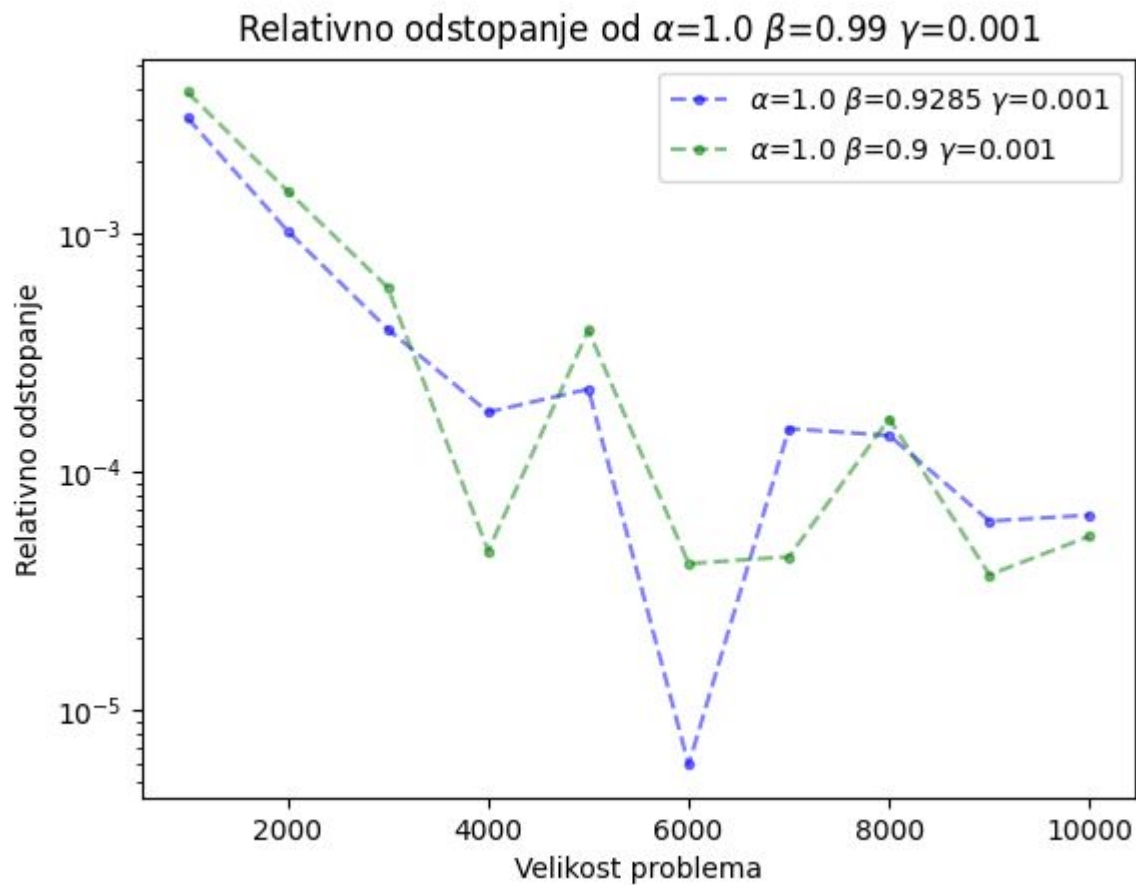


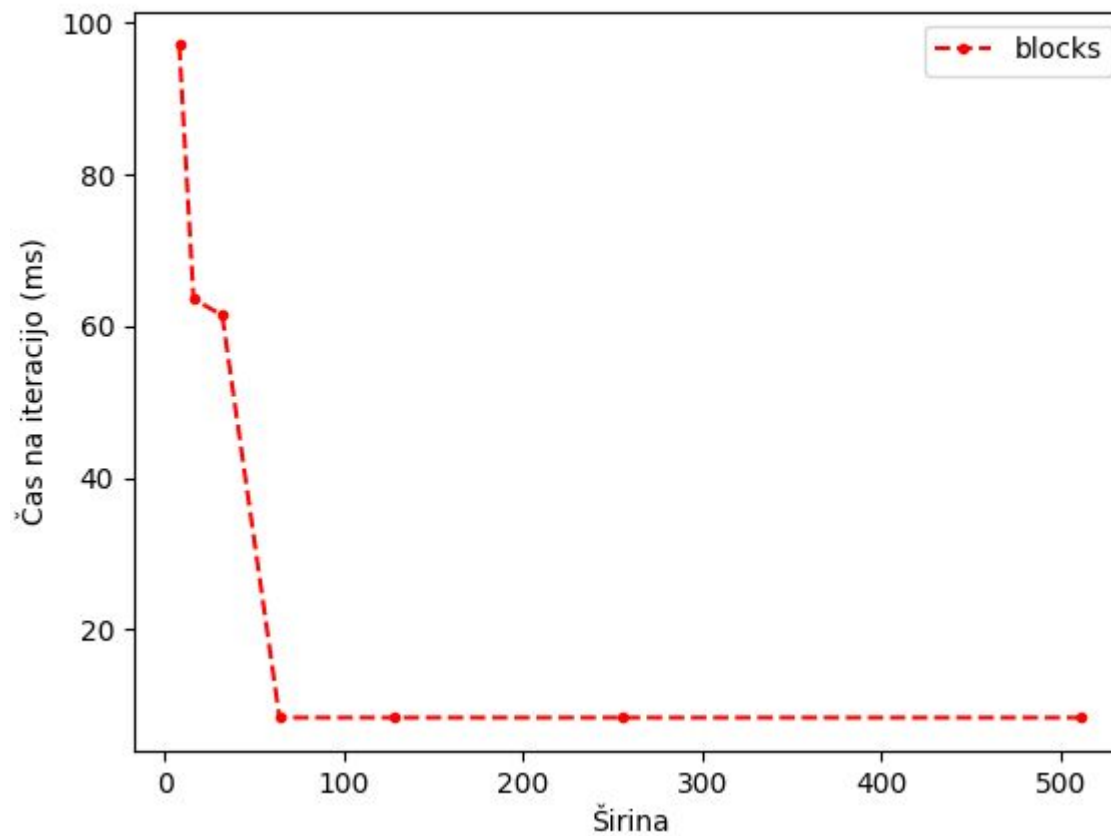
Modeliranje rasti snežink

Jon Vehovar, Domen Vilar

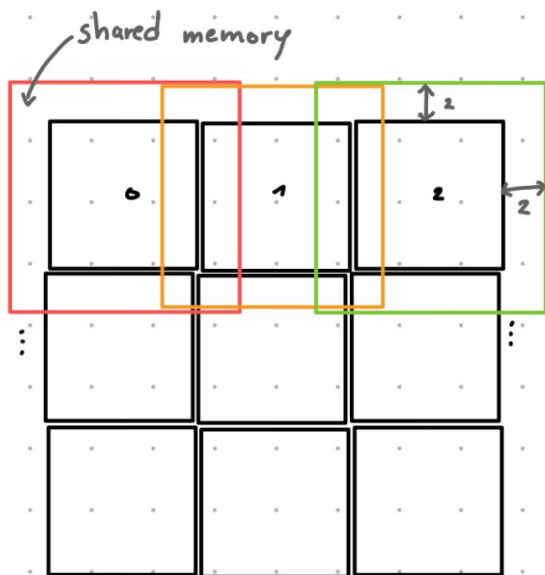
CUDA: Odvisnost od začetnih pogojev



CUDA: širina bloka

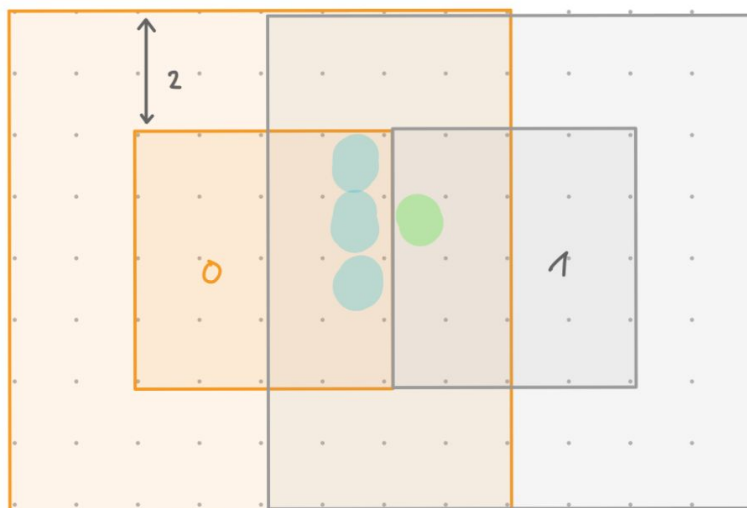


Deljeni pomnilnik in dodatni rob širine 2

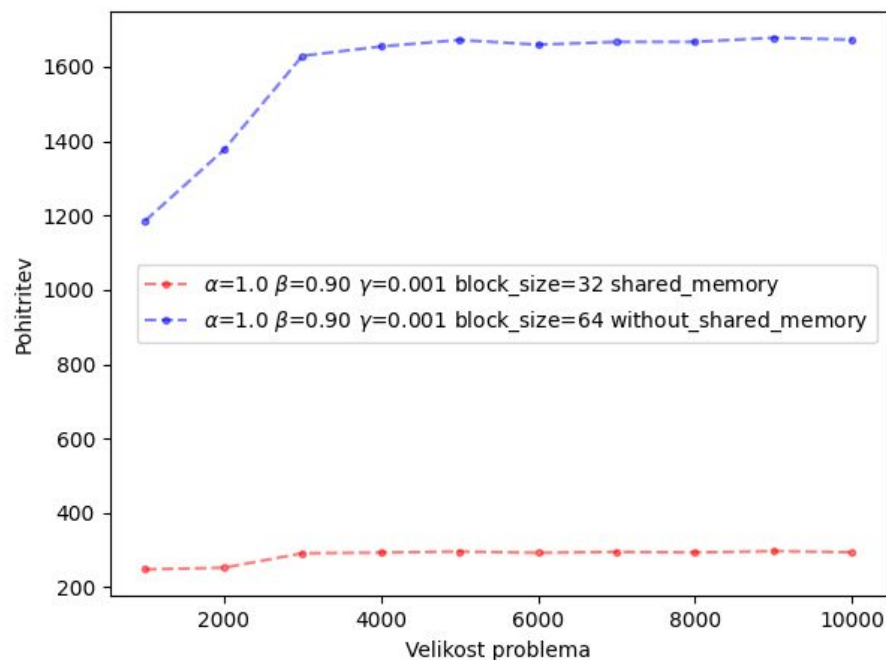
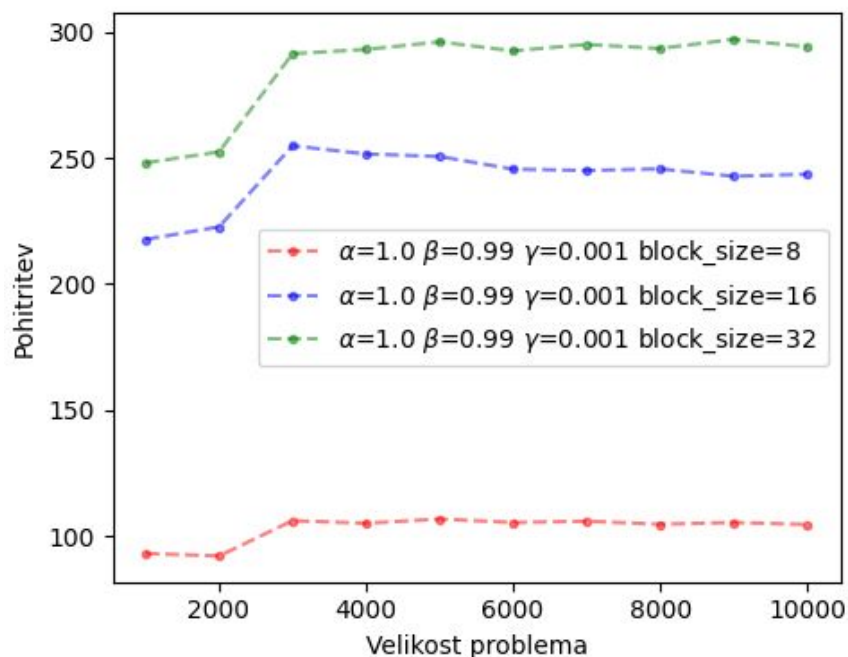


→ zamrznjene

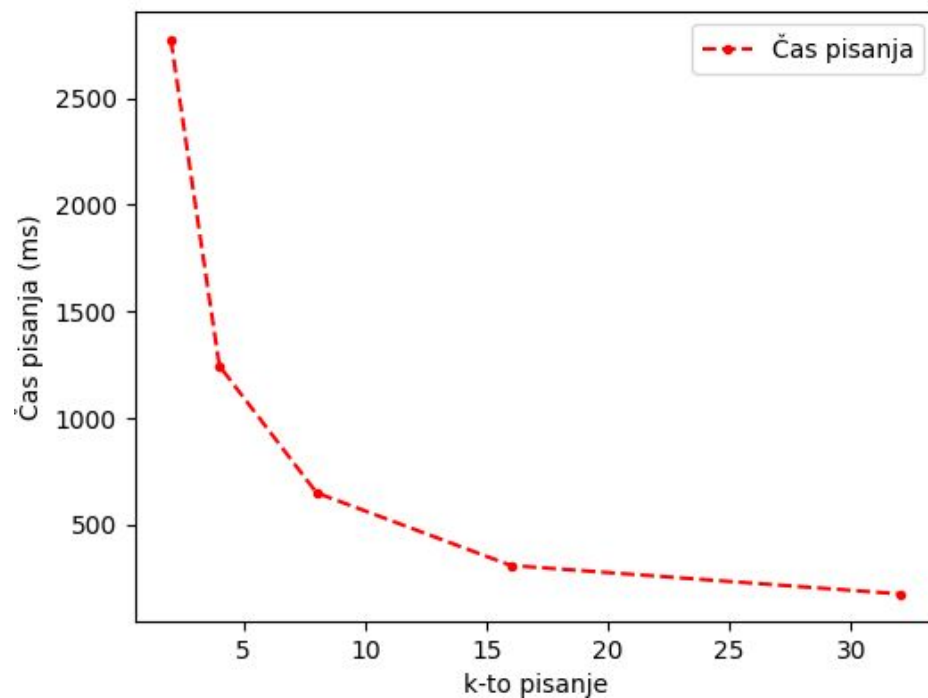
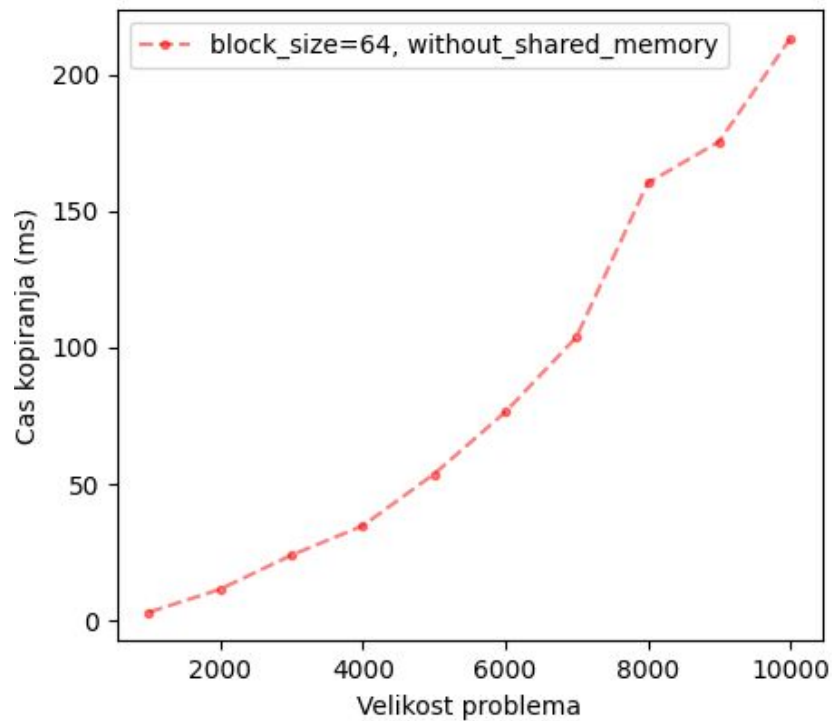
→ majne



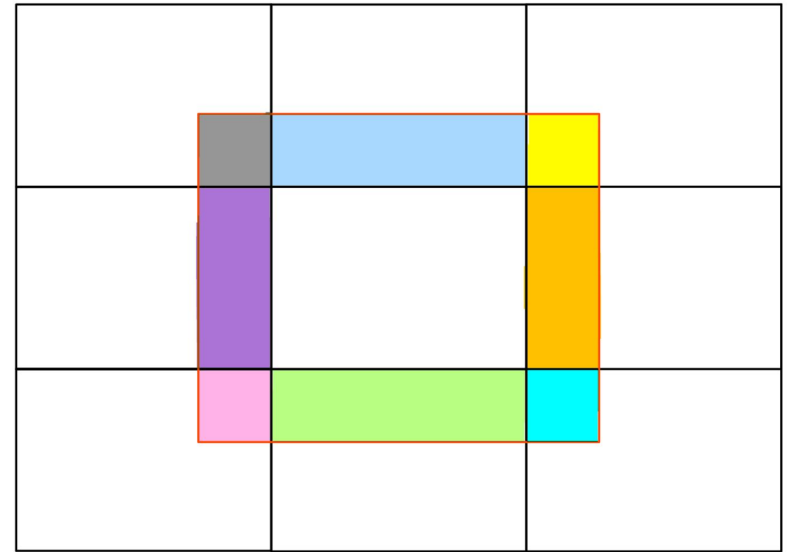
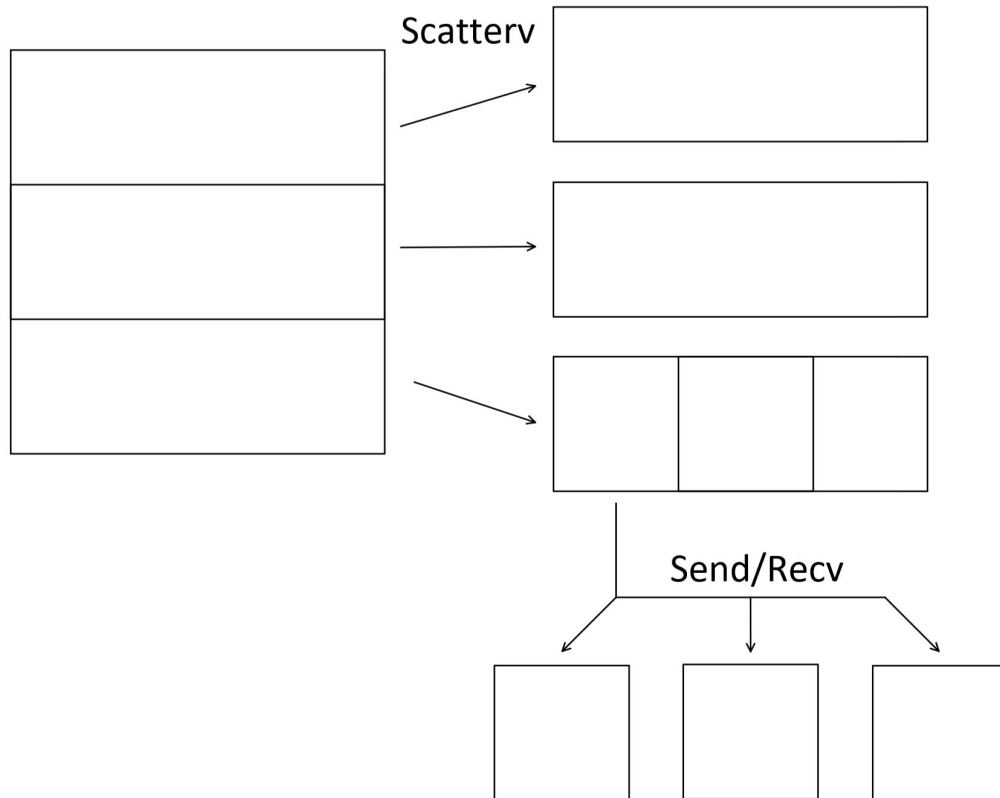
CUDA: primerjava z deljenim pomnilnikom



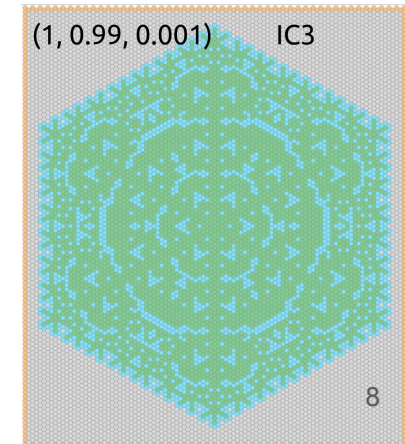
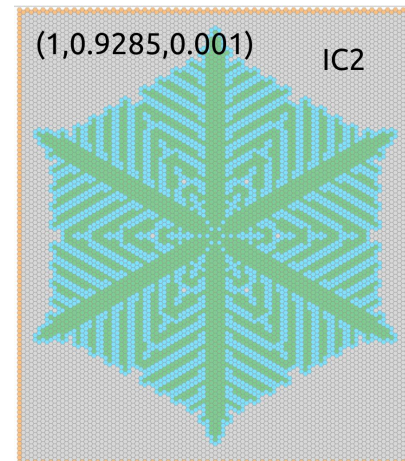
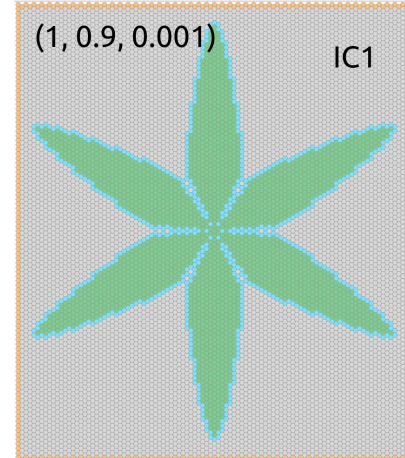
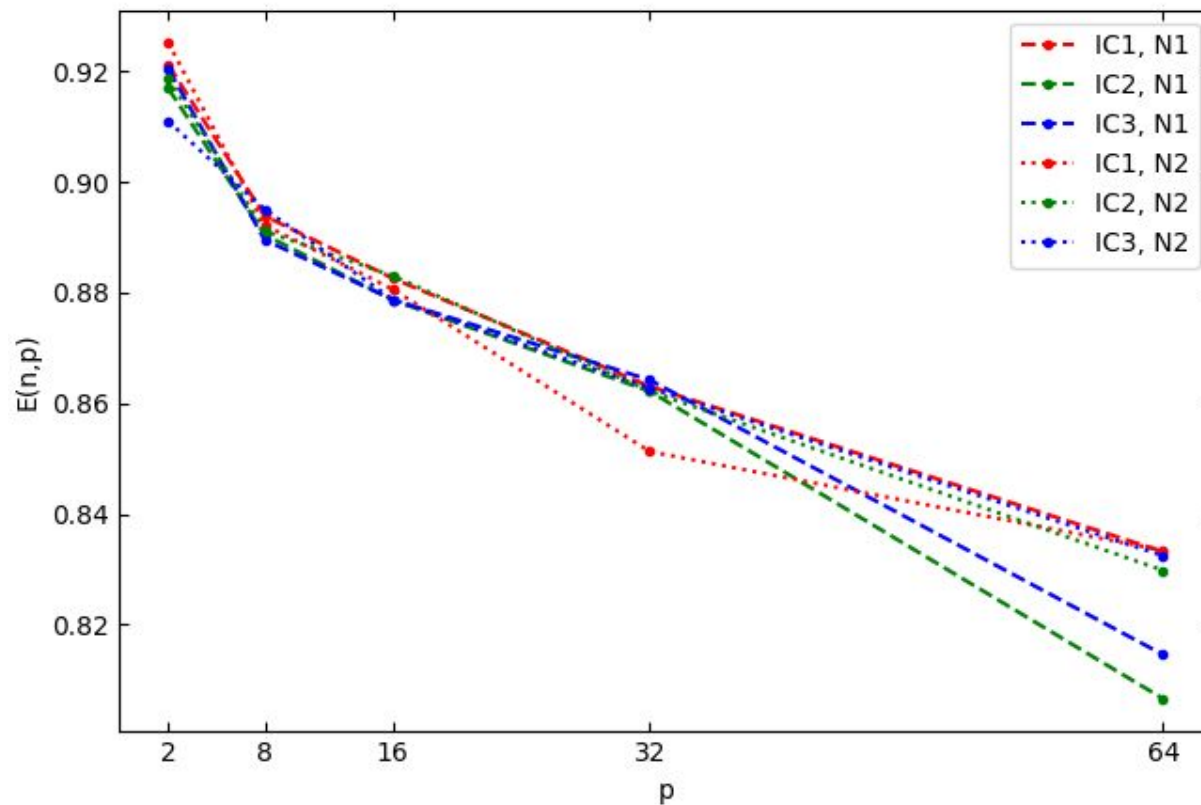
Čas kopiranja na GPU in čas k-tega pisanja



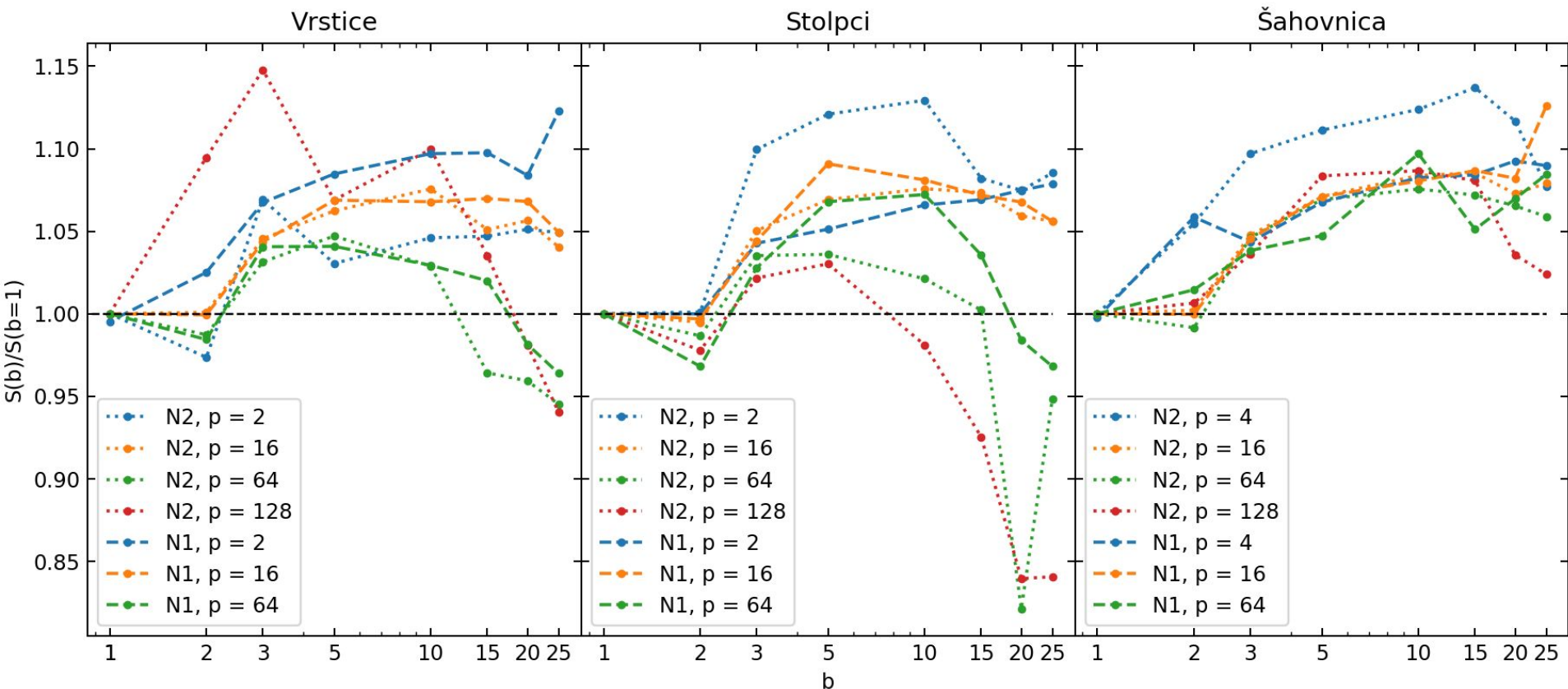
MPI: Pretok podatkov



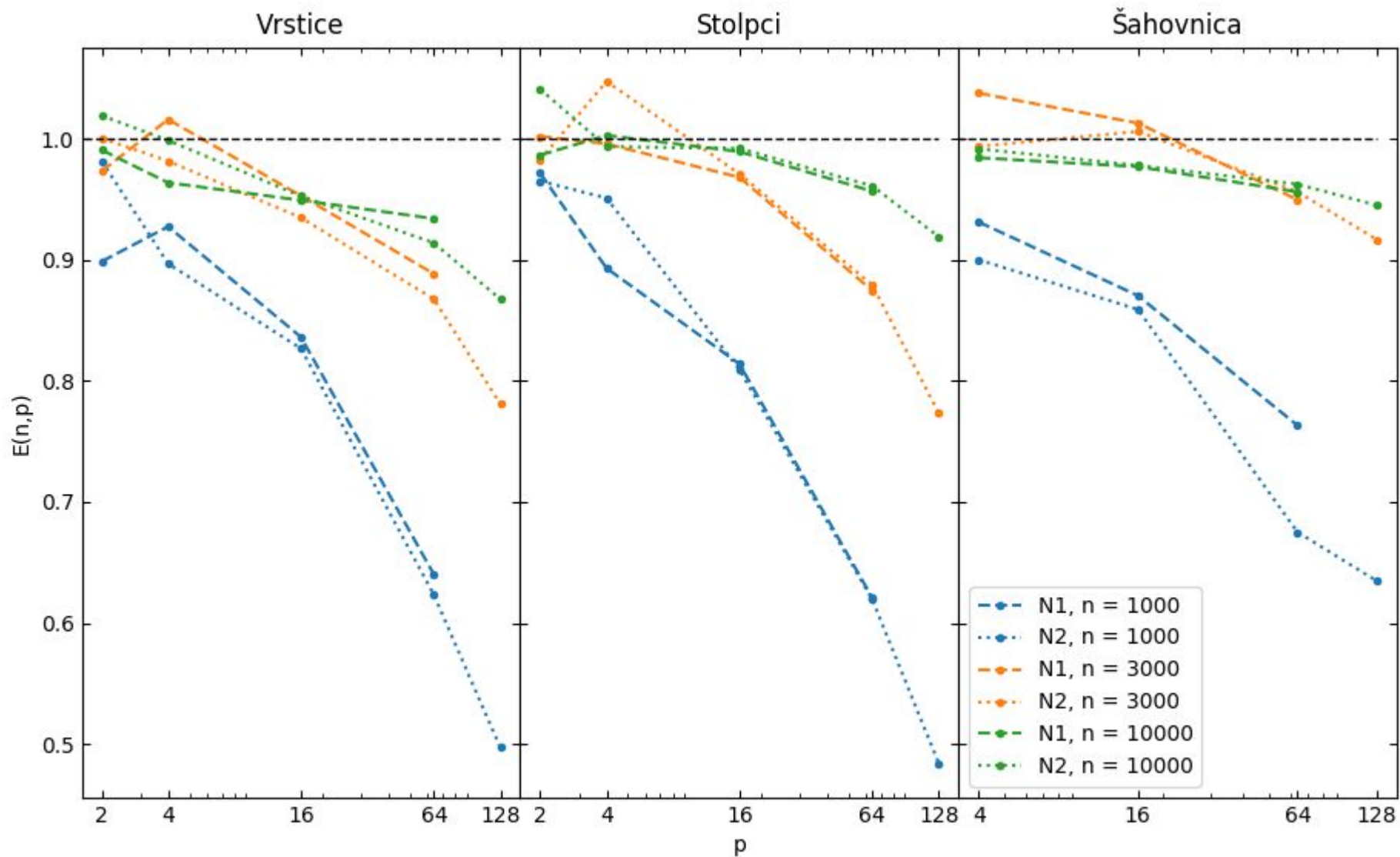
MPI: Odvisnost od začetnih pogojev



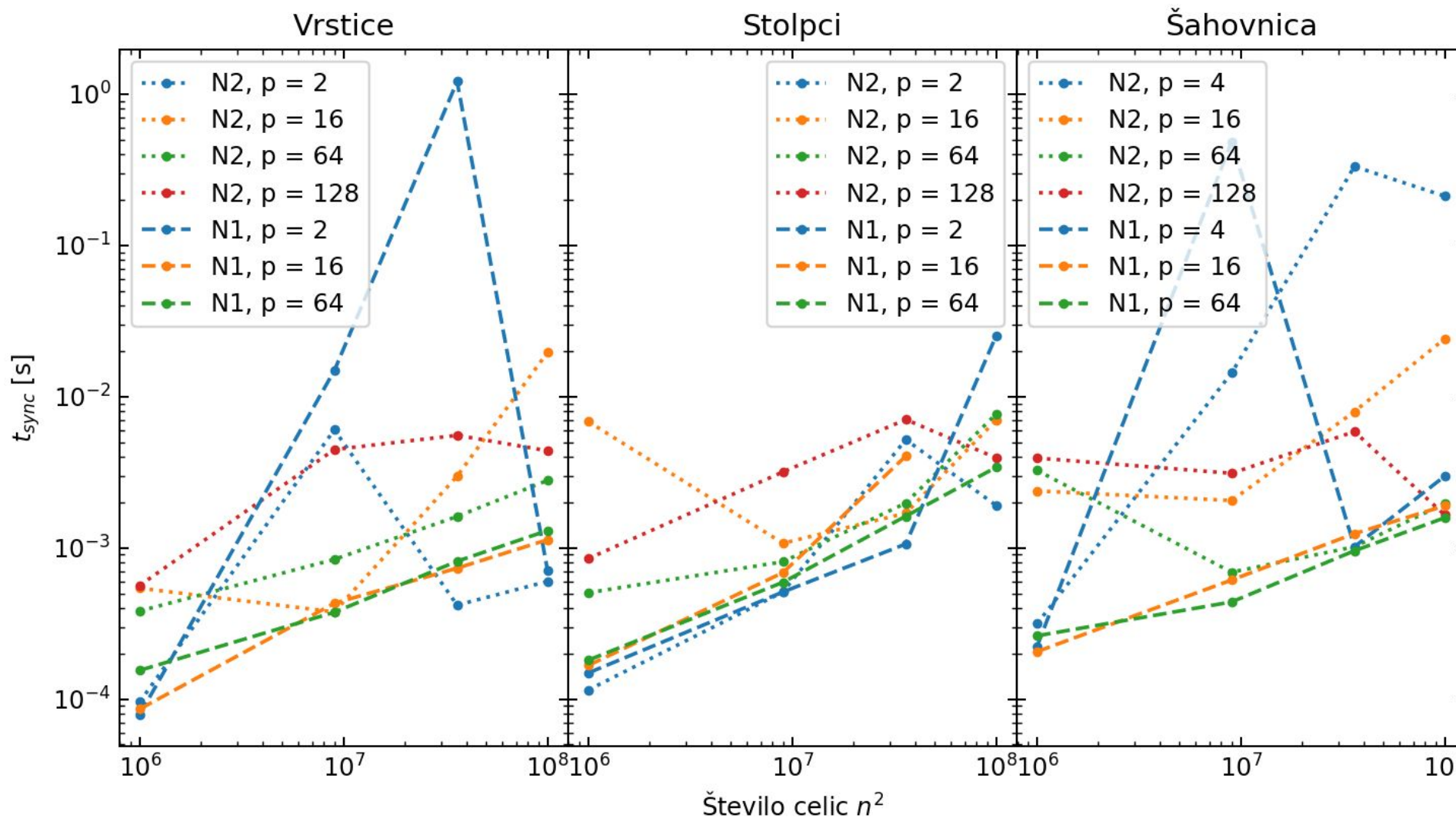
MPI: Dodatni robovi



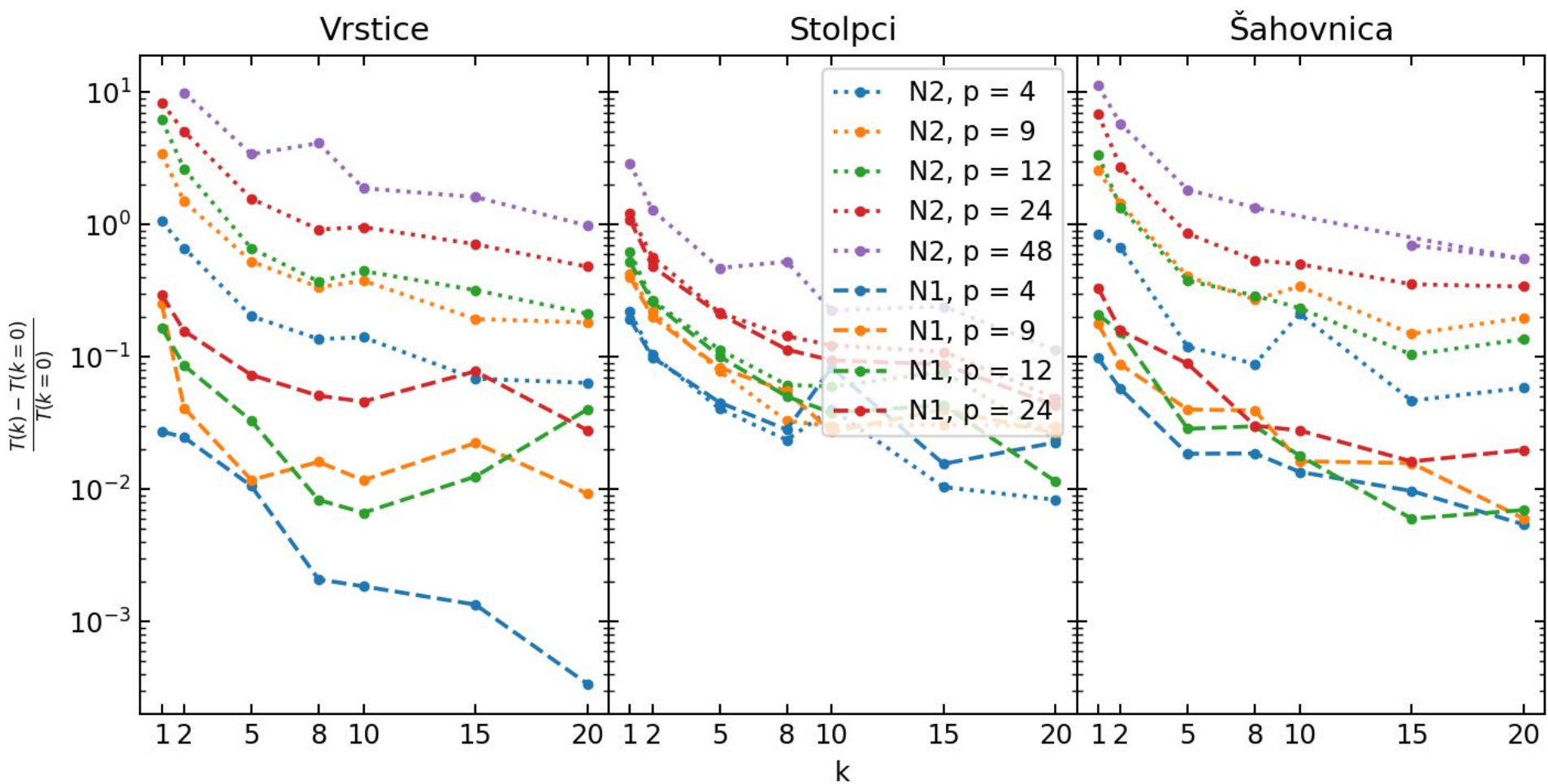
MPI: Učinkovitost



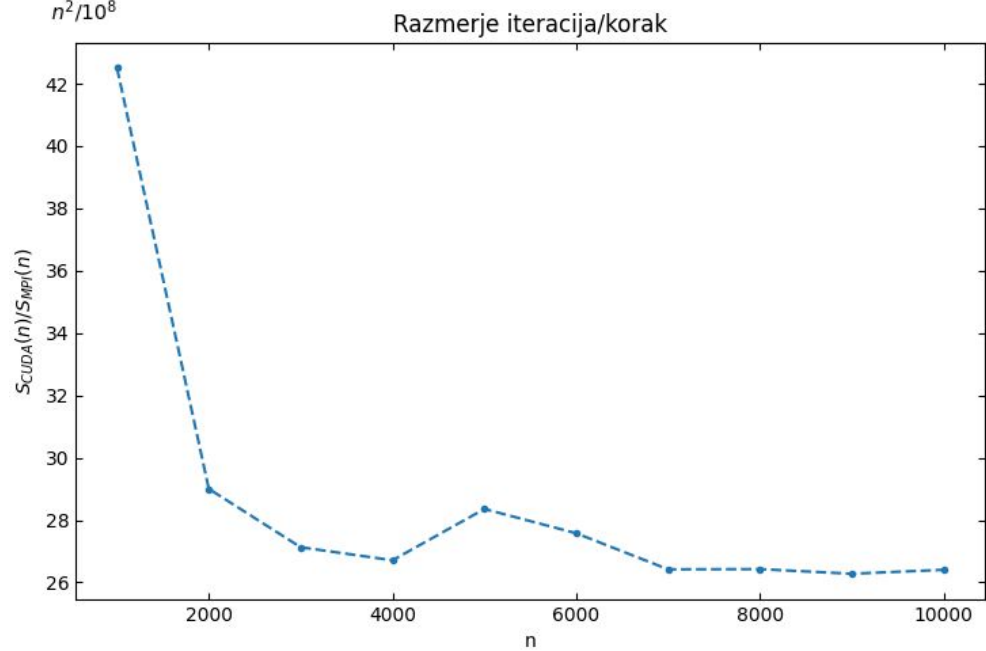
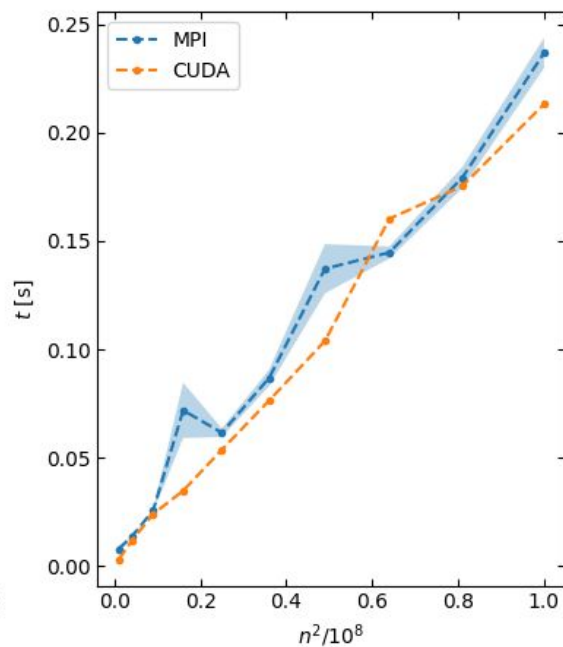
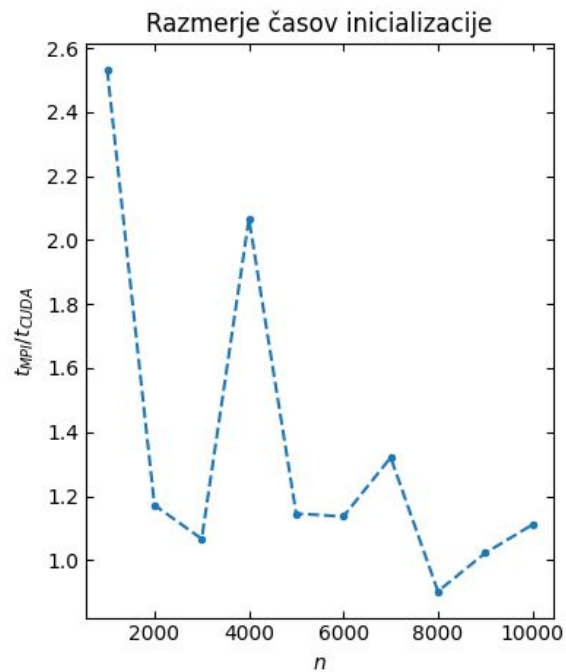
MPI: Komunikacija



MPI: Vpliv shranjevanja



Primerjava: CUDA - MPI



Teoretična raztegljivost

$$T_s(N) = \chi N \geq C [(p-1) \sigma(N) + p \kappa(N, p)]$$

$$\sigma(N) \equiv 0, \quad \kappa(p, N) = \lambda + 4 \frac{b\sqrt{N}}{\beta\sqrt{p}}$$

$$\chi N \geq Cp \left(\lambda + 4 \frac{b\sqrt{N}}{\beta\sqrt{p}} \right)$$

$$\chi N \geq 4C \frac{b\sqrt{N}}{\beta\sqrt{p}} p \quad C' \equiv \left(4C \frac{b}{\beta\chi} \right)^2$$

$$N \geq C' p$$

$$M(N) = C'' N, \quad \frac{M(N)}{p} = \frac{C'' N}{p} \geq \frac{C'' C' p}{p} = C'''$$

