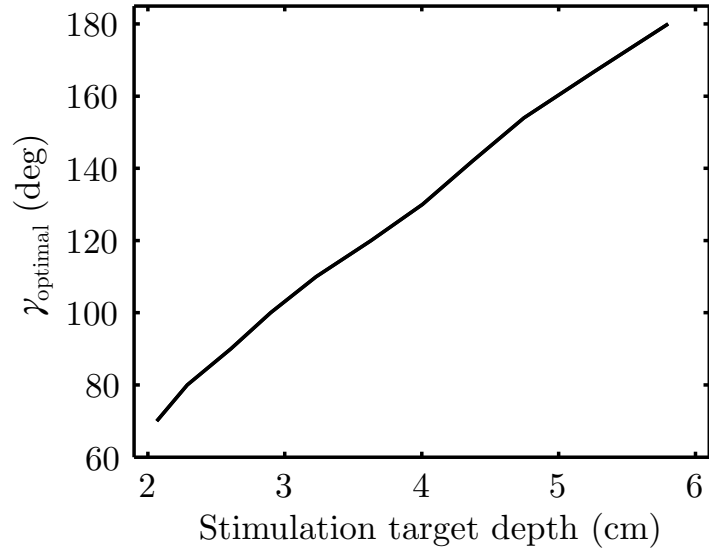
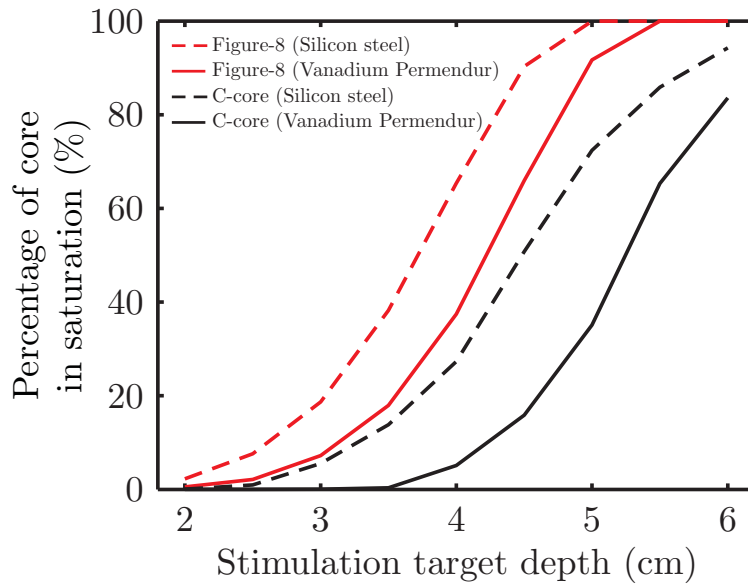


Supplementary Figure S1: Crown coil performance as a function of target depth (dashed line: 4 cm, solid line: 6 cm) and coil size parametrized by angle β (see Figure 1 for angle definition). Angle α is fixed at 90° . Evaluated metrics are: (a) maximum electric field strength in the cortex relative to neural activation threshold, $\max(|E_{2\text{cm}}|)/E_{\text{th}}$, (b) directly activated brain volume, V_A , and (c) energy delivered to the coil assuming $E_{\text{th}} = 1 \text{ V cm}^{-1}$, W .



Supplementary Figure S2: Optimal C-core coil angle γ_{optimal} that minimizes the energy delivered to the coil for stimulation target depths of 2–6 cm.



Supplementary Figure S3: Percentage of the core in saturation as a function of stimulation target depth for the figure-8 and C-core coils with silicon-steel core (saturates at 1.8 T) and vanadium-permendur core (saturates at 2.3 T).