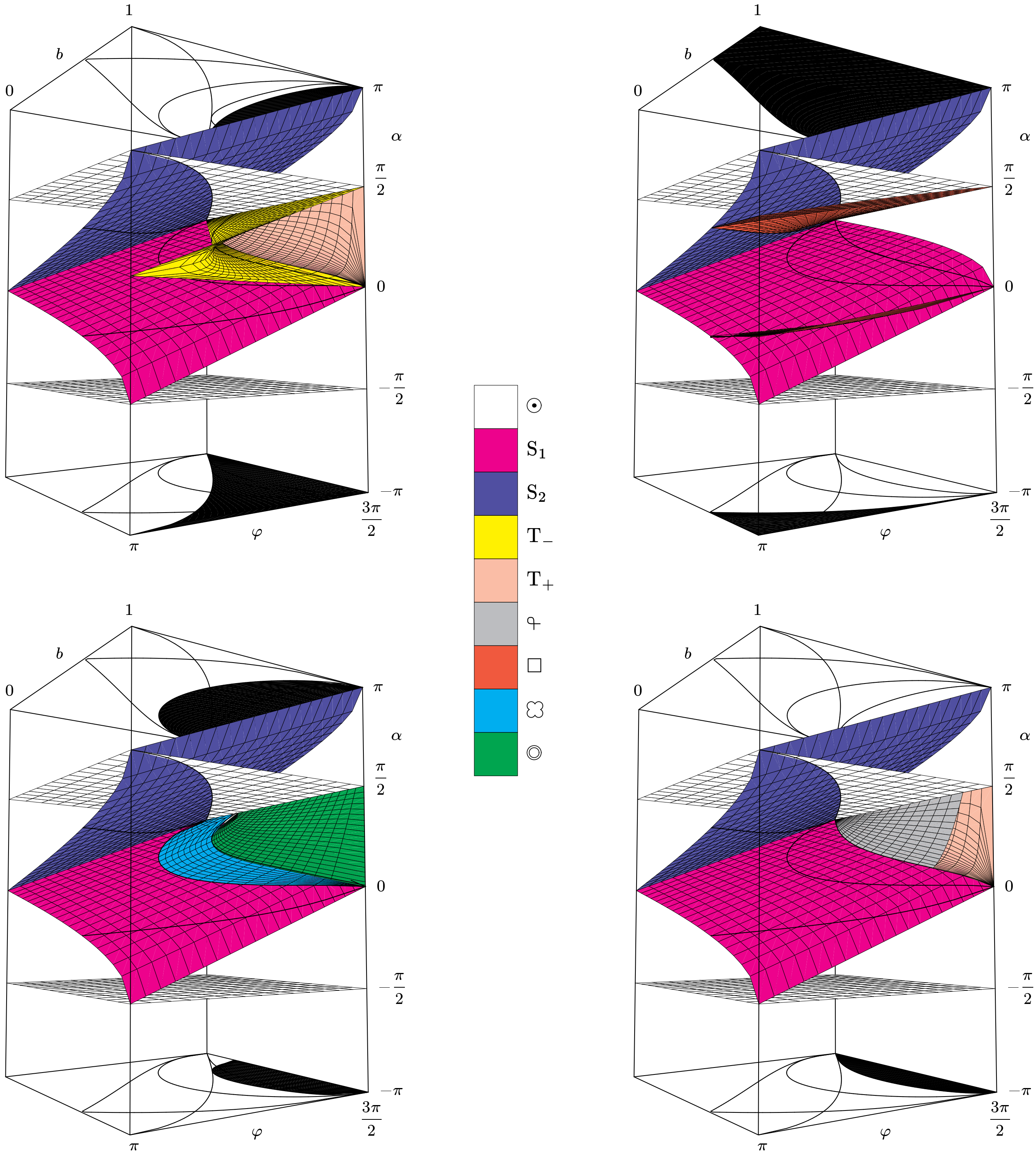

FIGURE 9. Surfaces in (b, φ, α)-space and their shadows (projections) in the (b, φ)-plane. Top left: The local surfaces $\odot$, S_1, S_2, T_+ of Theorem 3.1 and the surface T_- of trace zero at the saddles (Remark 3.2) contain all known curves of codimension-two bifurcations. The Hopf and saddle-node surfaces are repeated in the other three panels, which also show the nonlocal surfaces of Theorem 3.12. Top right: the two surfaces $\square$ of square connections. Bottom left: the surfaces ☘ of clover connections and ◎ of saddle-node bifurcations of limit cycles. Bottom right: the surface ⚲ of homoclinic connections of secondary equilibria, and T_+ again. See also Figures 11 and 12.

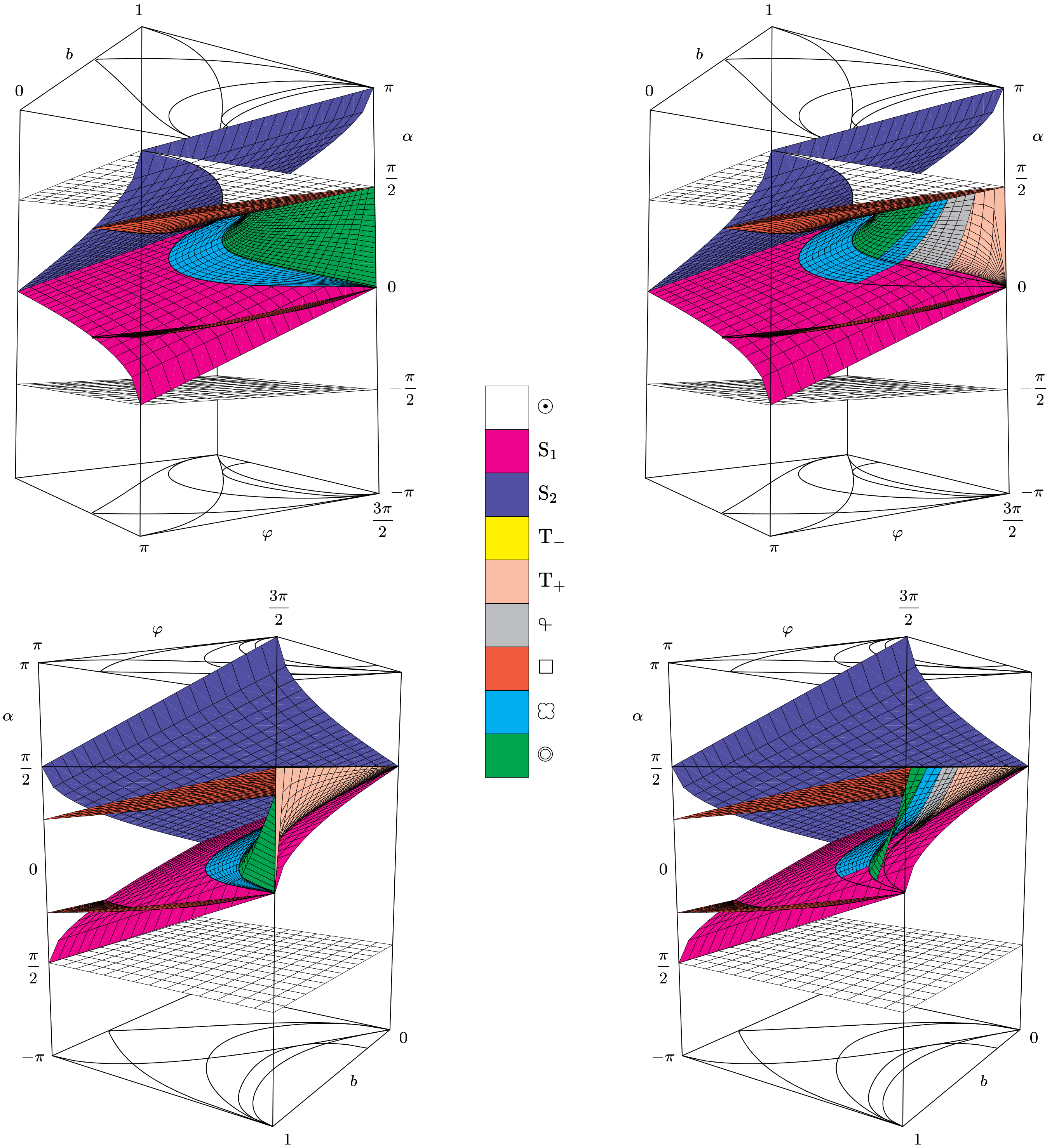

FIGURE 10. Left: Two views of the full bifurcation set in the cube of interest. Right: Same views, but some of the surfaces have been cut open so that all the surfaces can be seen. See Table 2 for symbols.