

Fig. 1. Regular representation of knot.

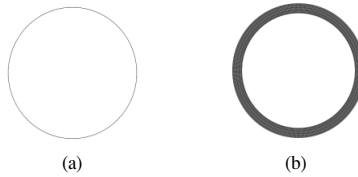


Fig. 2. (a) Regular representation. (b) Regular projection.

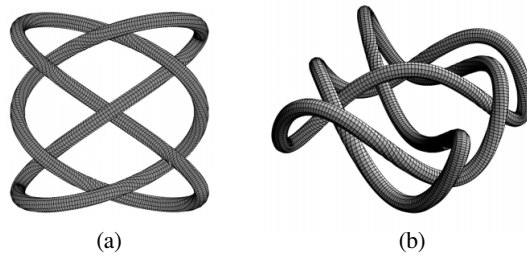


Fig. 3. Knot 1 obtained from lissajous curve (7) [1,4,3,2,7].

$$P:R^3 \rightarrow E \quad P(x, y, z) = (x, y)$$

P will be called the regular projection of L and denoted by $P(L)$ (OCHIAI *et al.*, 1996b).

Figure 1 shows the relationship “over-under” in every crossing of $P(L)$ (OCHIAI *et al.*, 1996b; ADAMS, 1998). To every crossing in the plane (x, y) are assigned two z -coordinates, $z_1 > z_2$, where z_1 corresponds to the over strand, and z_2 to the under strand. In a regular projection $P(K)$ of a knot K we choose an orientation for travelling around the diagram. A knot or link is called alternating when in this travel each overcrossing is followed by undercrossing and vice versa, and non-alternating otherwise (OCHIAI *et al.*, 1996c).

Figure 1 overcrossing and undercrossing in a regular diagram of knot or link.