The angular difference of an astrocytic network is used to determine whether its preferential orientation is towards the center of the nucleus of interest. For each network a straight line (black line in Figure 5) was drawn from the patched astrocyte (P, black dot in Figure 5) to the center of the theoretical nucleus of interest. In this case, as only the dorsal half of NVsnpr is of interest, the center was defined as the intersection of a line from the 50% lateromedial axis and a line from 25% dorsoventral axis of the bounding rectangle (C, blue dot Figure 5). The angular difference (α, Figure 5) is the angle between the main vector of preferential direction of the network (PD, red line, Figure 5) and the line connecting P to C. To calculate the angular difference, use the Al-Kashi theorem into the triangle PDC (inset of Figure 5). This theorem gives the following equation:

Where is the length of [PC], is the length of [PD] and the length of [DC].

To calculate the angular difference, the Al-Kashi theorem was used with the following equation: