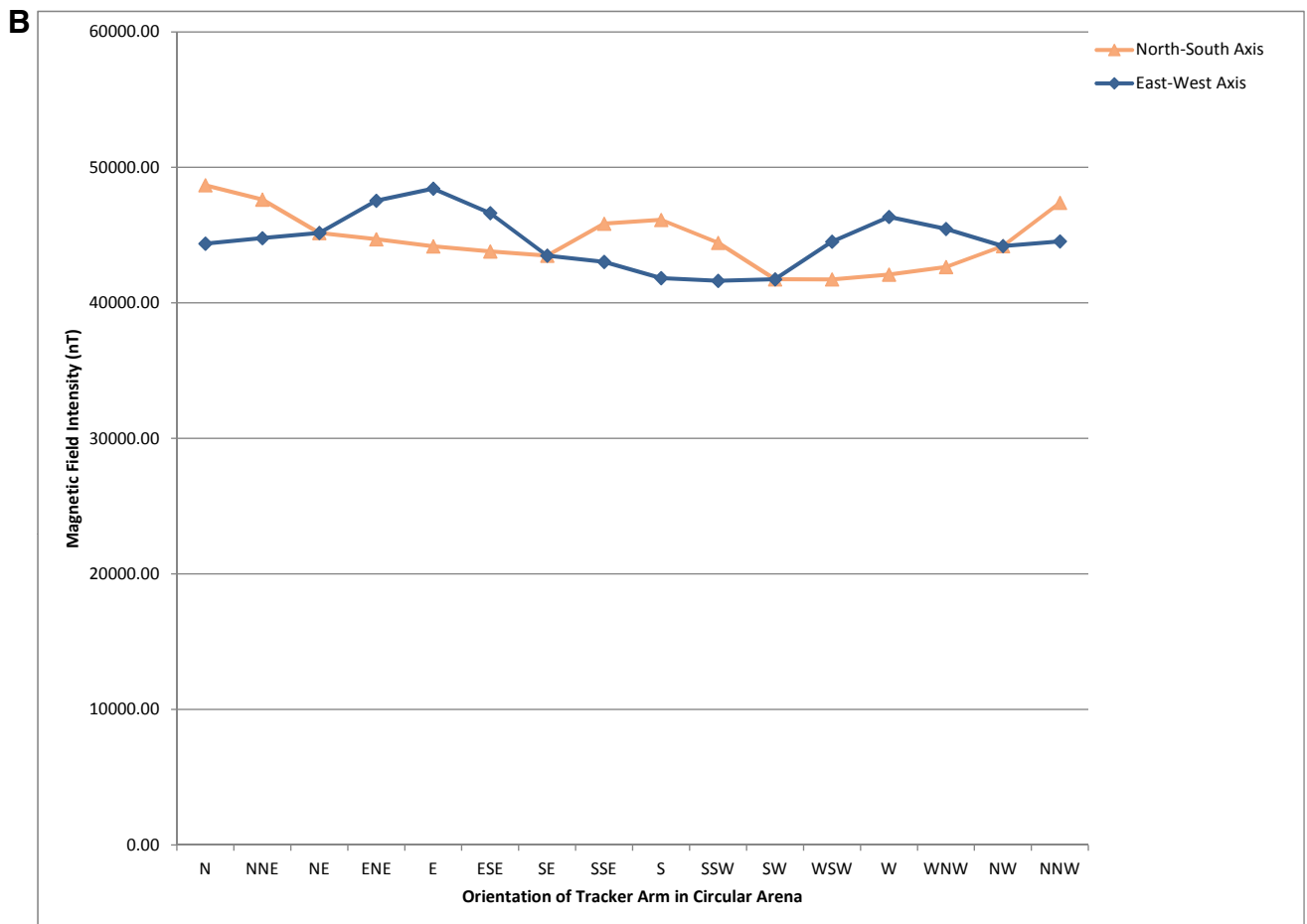
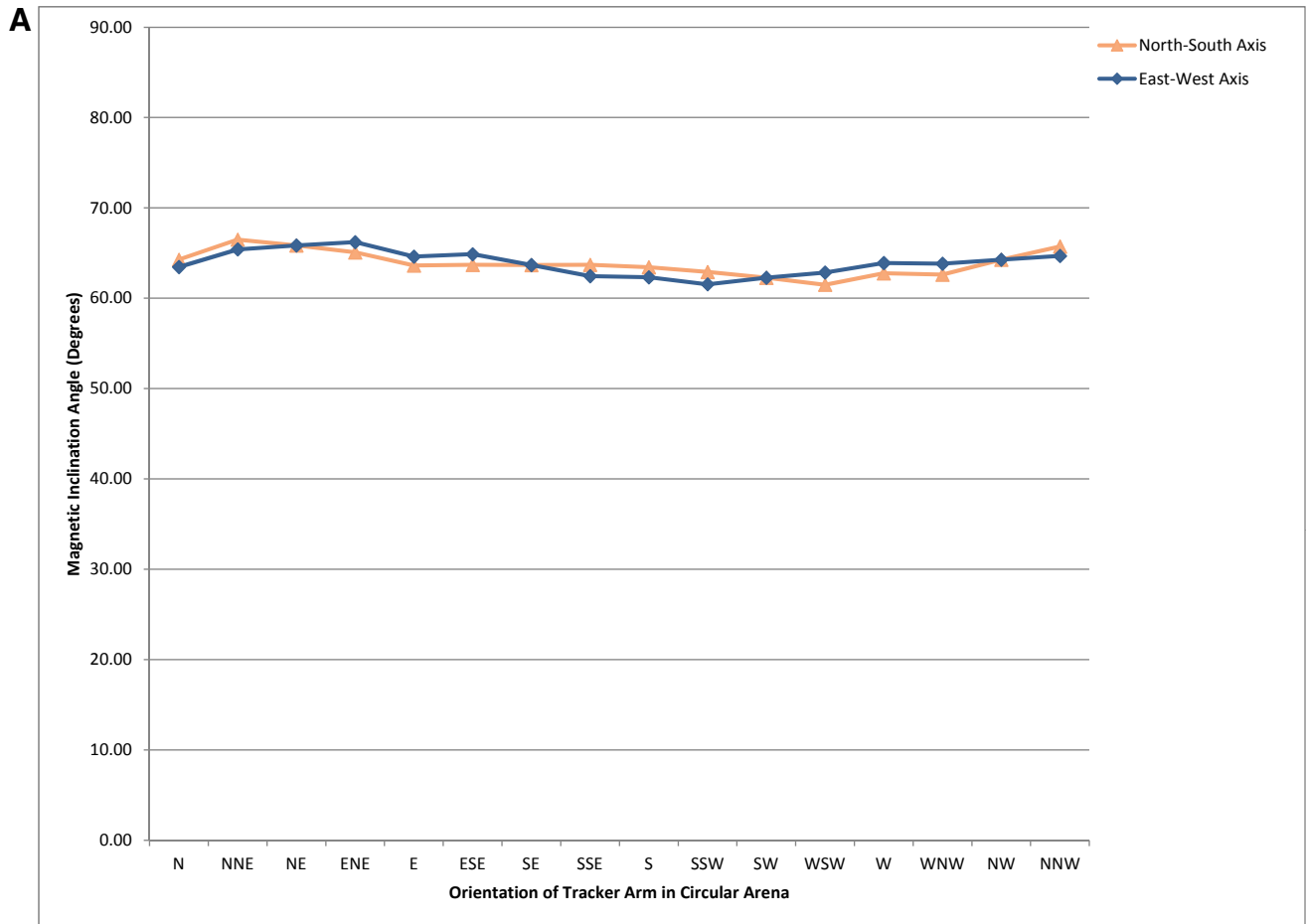


Fig. S1. Total magnetic field experienced by pigeon at 16 locations around periphery of circular orientation arena during parallel (standard) sessions. Measurements were taken with a FVM handheld 3-axis vector fluxgate magnetometer (Meda Inc.) at the head height of a walking pigeon and at a distance of 30 cm from the center of the arena. (a) Magnetic inclination angle. (b) Magnetic field intensity. (c) Magnetic declination angle.



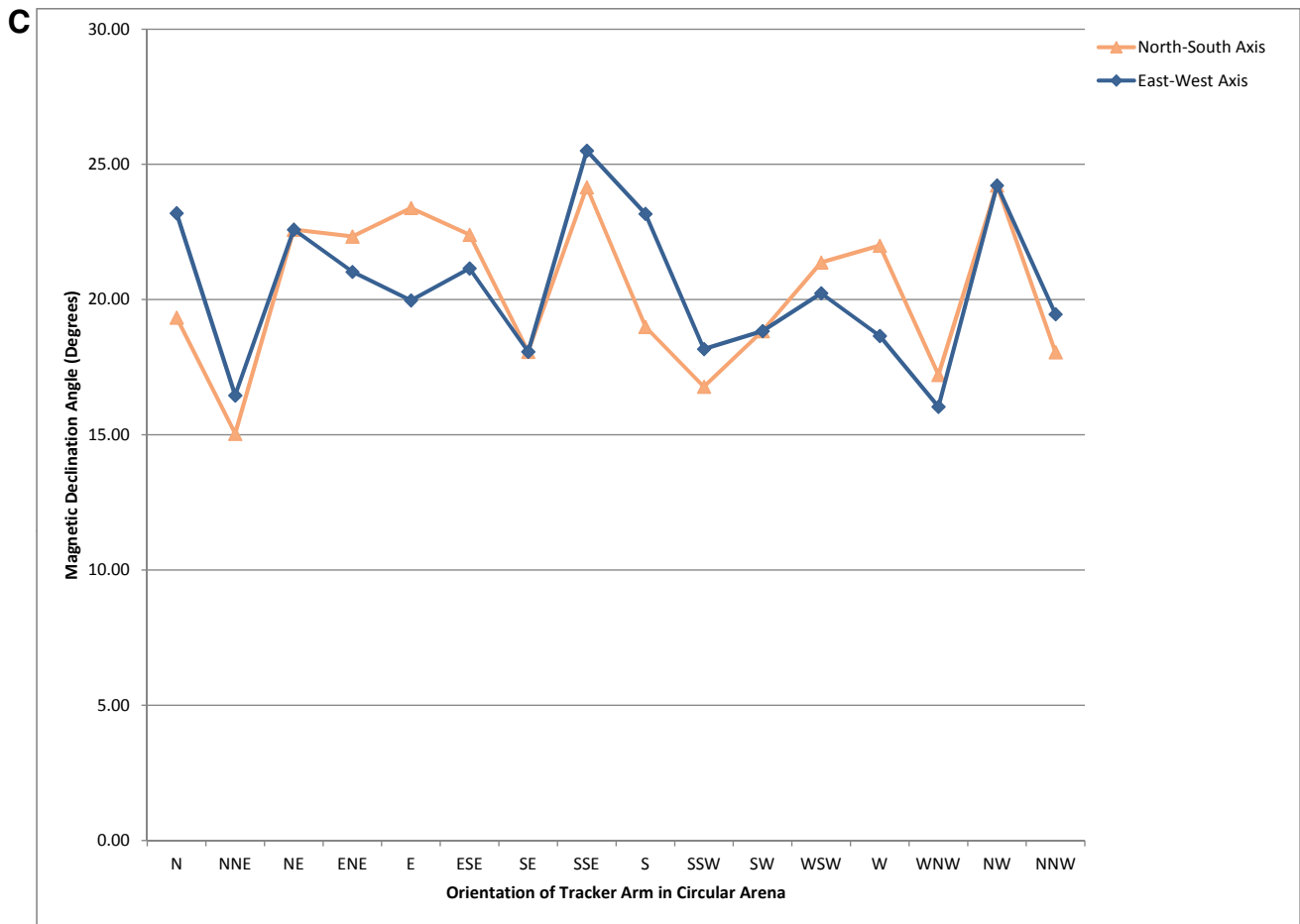
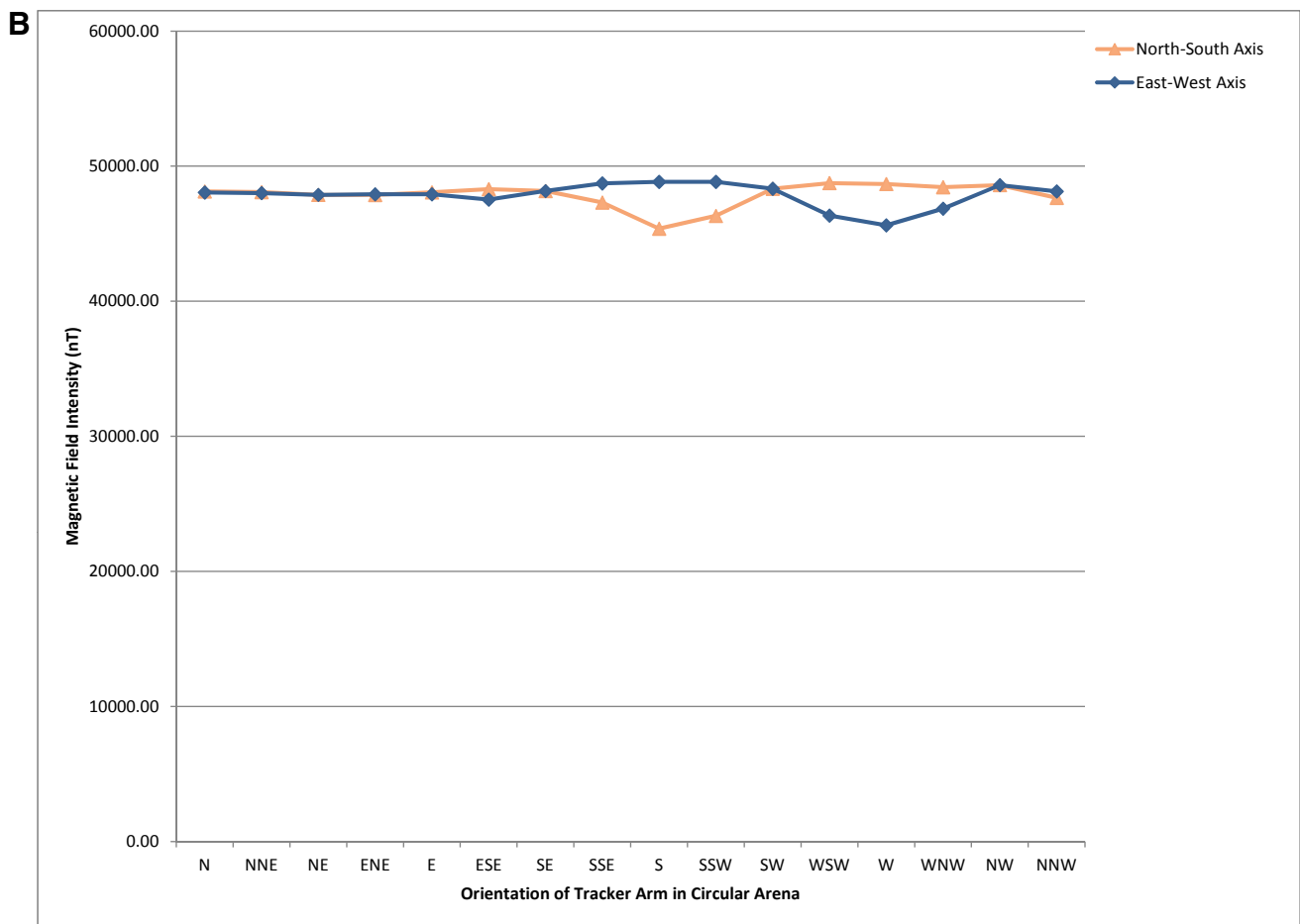
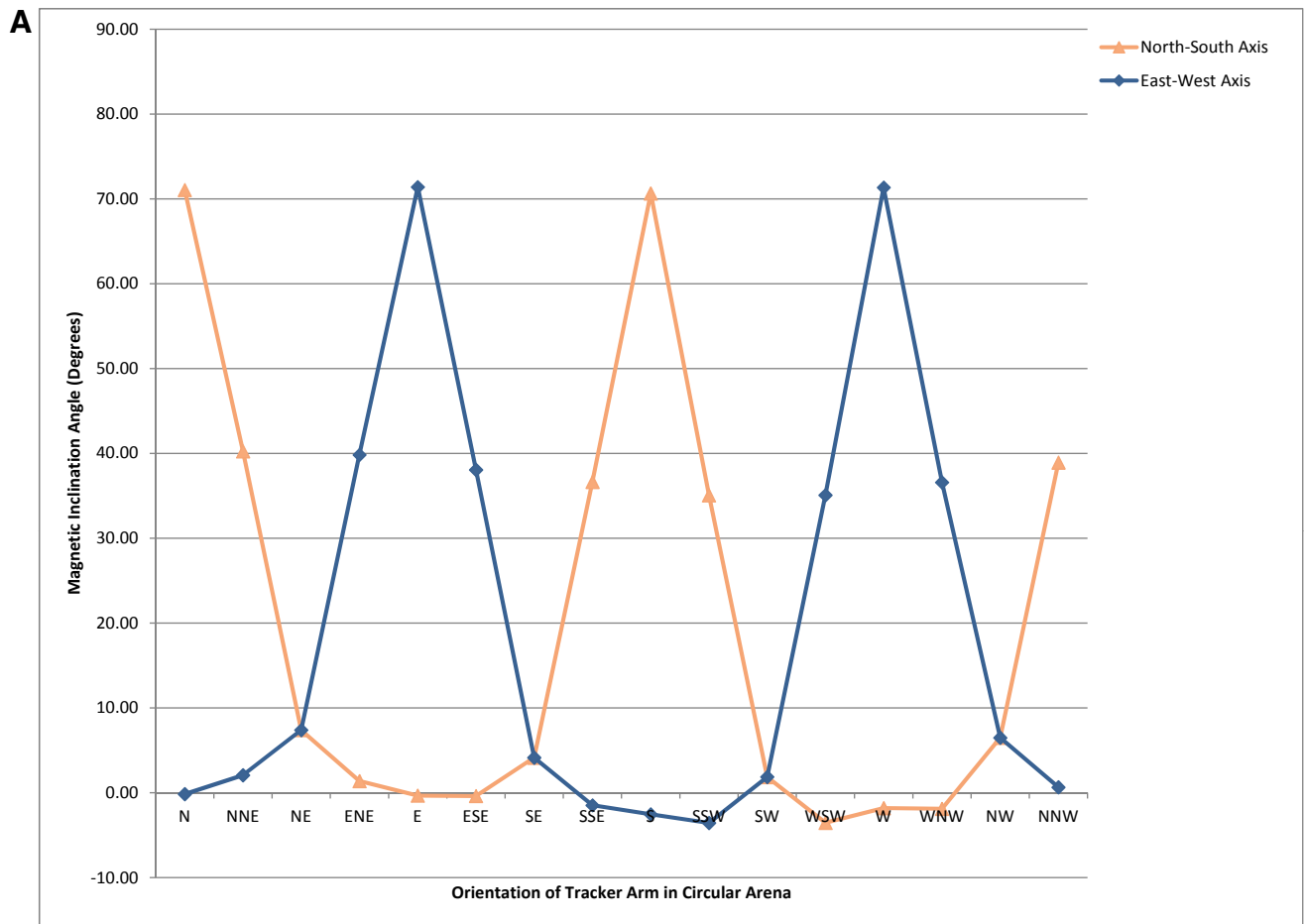


Fig. S2. Total magnetic field experienced by pigeon at 16 locations around periphery of circular orientation arena during anti-parallel sessions. Measurements taken as described for Fig. 1a. (a) Magnetic inclination angle. (b) Magnetic field intensity. (c) Magnetic declination angle.



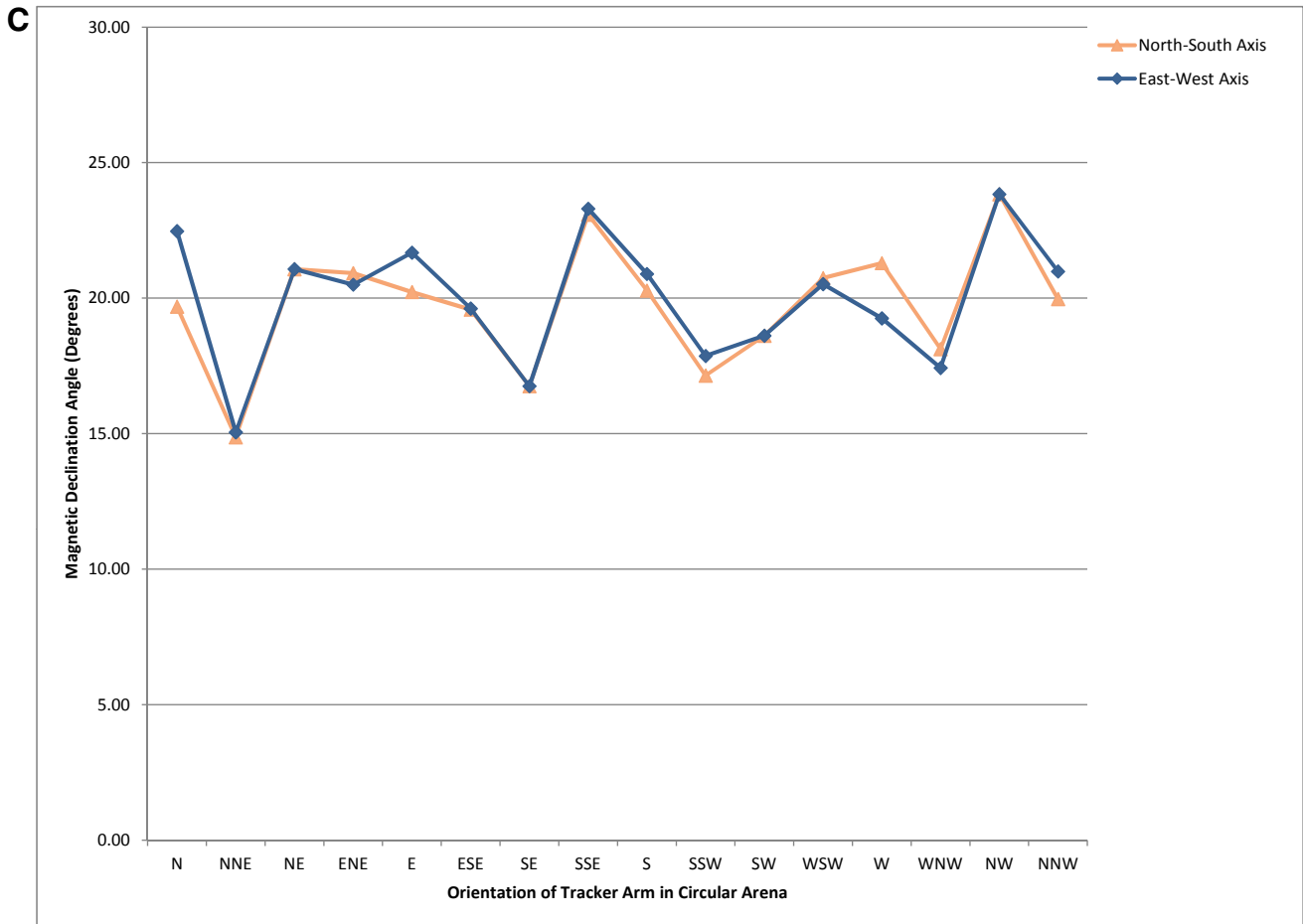


Fig. S3. Total magnetic field experienced by pigeon at 16 locations around periphery of circular orientation arena during parallel (standard) sessions with a truncated magnetic inclination range. Measurements taken as described for Fig. 1a. (a) Magnetic inclination angle. (b) Magnetic field intensity. (c) Magnetic declination angle.