

## Statochinesigramma

The status kinesigram or ball is the overall radial (in the anteroposterior and mid-lateral) graphics of the oscillations of the pressure center on the platform with respect to the time or duration of the examination.

It represents the actual displacement of the pressure center with reference to the plantar support. From a clinical point of view, the graphic representations are relevant for a qualitative analysis, and provide very useful information if you want to reach a diagnosis.

His analysis in bipodalic stabilometry for the study of the static standing position, provides that the following are described and considered with respect to the support polygon:

- The morphological aspect, relating to constitutive aspects (lead, compact, wide, scattered) v. Fig. 1,2,3,4
- The equidistance, whose distance from the same reference point is equal to that of one or more other objects (with respect to the CoP of each podogram: right equal to the left, right greater than the left or vice versa) v. Fig. 5
- Symmetry, ordered correspondence of shape or position between the parts of an object or between the elements of an arrangement with respect to the CoP of each podogram (right greater than the left or vice versa) v. Fig. 6
- The topographical location, where the topography (from the Greek topos, place and graphein, to write) obtained from the software in use by means of calculations and reconstructions, provides us with an almost detailed graphic representation of the surface of each foot with respect to the safety area, and the critical area. The safety area is given by the area obtained by means of the lines that identify the medial edges of the two right and left podograms, while the critical area is given by the two podograms themselves with different colors based on their pressure on the platform .v.fig.7

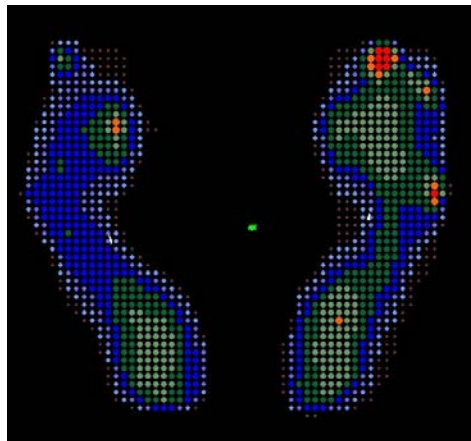


Fig. 1 Statochinesigramma (green) in bipodalic stabilometry, lead ball

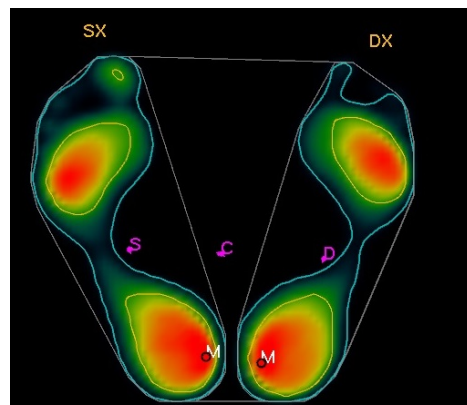


Fig. 2 Statochinesigramma (indicated by letter C) in bipodalic stabilometry, ball almost plumb

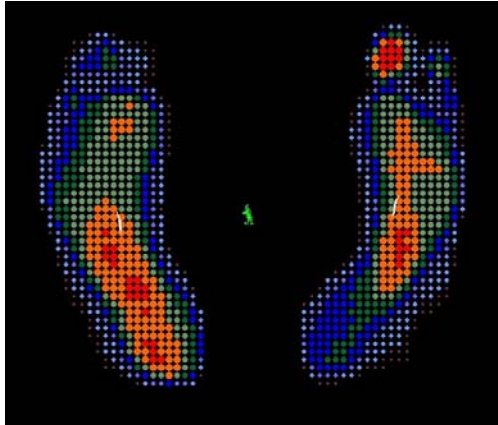


Fig. 3 Statochinesigramma with eyes open in case of ataxia with hydrocephalus, loose ball, compact

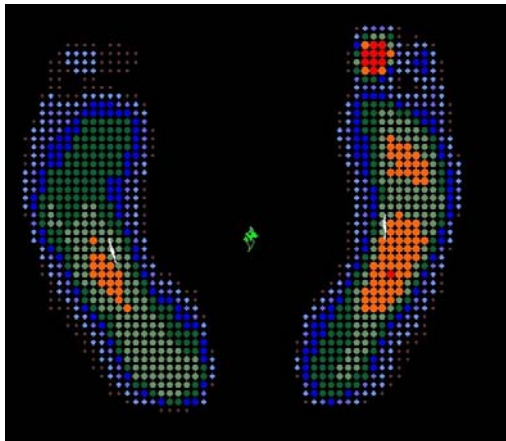


Fig. 4 Statochinesigramma with eyes open in another case of ataxia with hydrocephalus, ball of wool spread mostly

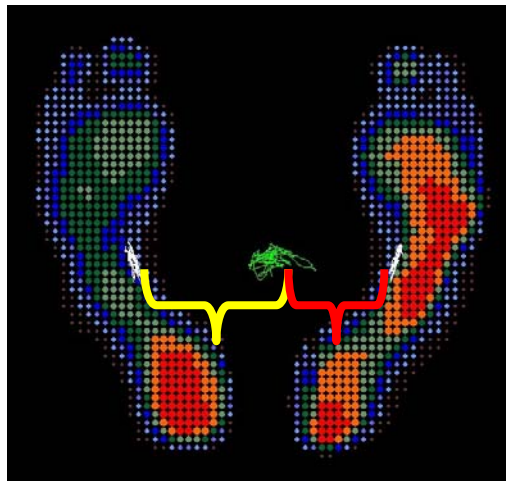


Fig. 5 Statochinesigramma, ball not equidistant, left > right, scattered

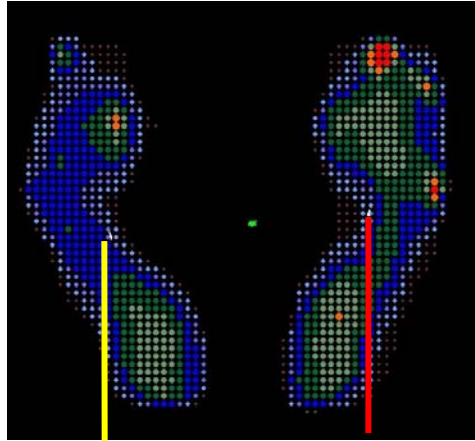


Fig. 6 Statochinesigramma left (yellow line) <right (red line), asymmetric

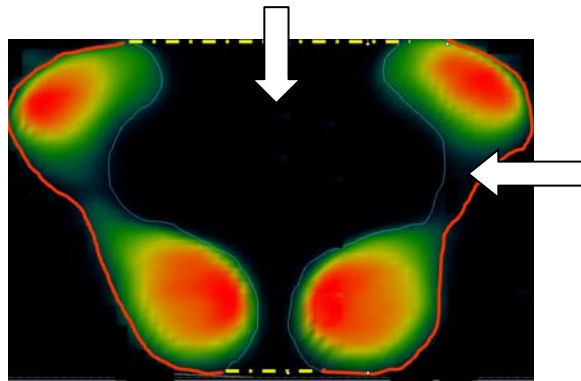


Fig. 7 Safety area (vertical arrow) and Critical area (horizontal arrow)

In the study in calibrated stabilometry, where positioning in a bipodalic static standing position provides the possibility of raising or lowering a part of the platform with a consequent increase in the right or left lower limb for the study of the short limb, the salient features of the analysis of the status kinesigram provide:

- the description of the geographical location with respect to the Cartesian axes of the platform where in the antero-posterior we have the Y axis and in the medio-lateral axis the X axis
- the topographical location with respect to the two left and right podograms
- the study of the centering with respect to the origin of the Y / X axes of the platform v. Fig.8.9

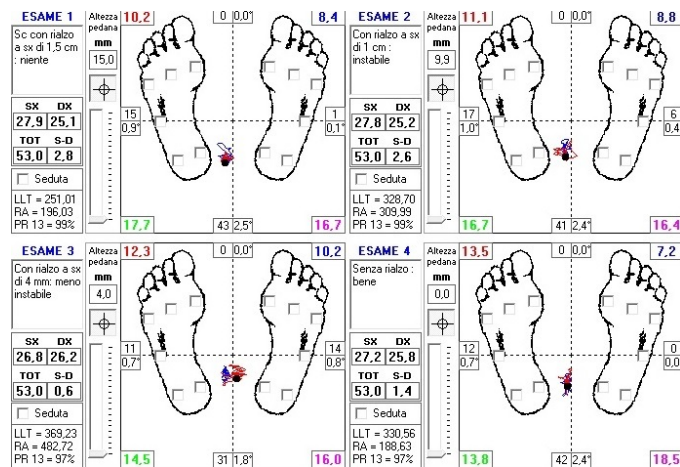


Fig. 8 Stabilometry calibrated in the study of heterometry left <right (short limb left) by increases of 1.5 cm, 1 cm, 4 mm, and without increases

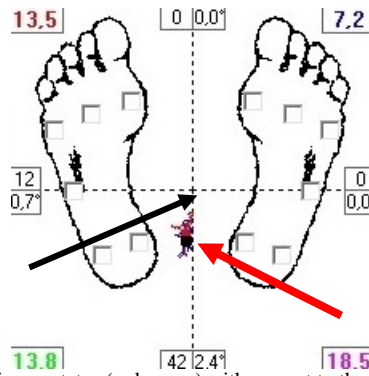


Fig. 9 Stabilometry calibrated: position of the kinesigram status (red arrow) with respect to the origin of the Y / X axes of the platform (black arrow)

A study in bipodalic stabilometry can also be done by analyzing the partial status kinesigrams of the left foot, this can be carried out using the application of the rectangles. This tool allows you to visually detect the difference or not of amplitude and dispersion of the oscillation of each ball or CoP of the right and left foot.

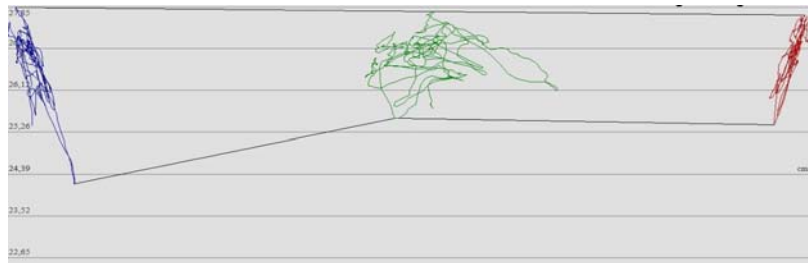


Fig. 10 Rectangle of balls of balls right foot (red) left foot (blue)

In the stabilometric study in a sitting position, we have that the support polygon is given by the two femurs and by the support of the pelvis on the seat, obtaining the so-called crurogram. The following characters are analyzed of the status kinesigram:

- geographical positioning of the ball relative to the crurogram (inside, outside)
- positioning of the ball with respect to the X and Y axis
- stellar or non-stellar aspect of the status kinesigram during the perturbation tests

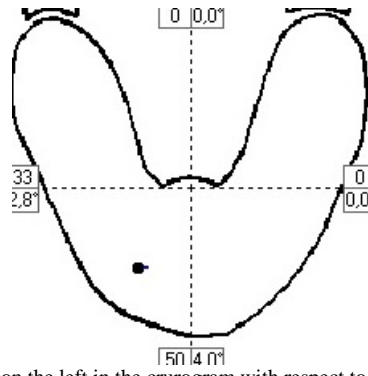


Fig.11 Status kinesigram on the left in the crurogram with respect to the almost plumbed X axis

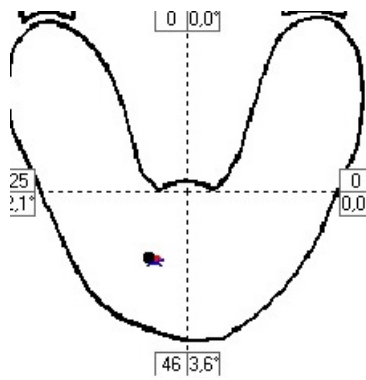


Fig. 12 Status kinesigram always left in the crurogram with respect to the enlarged X axis

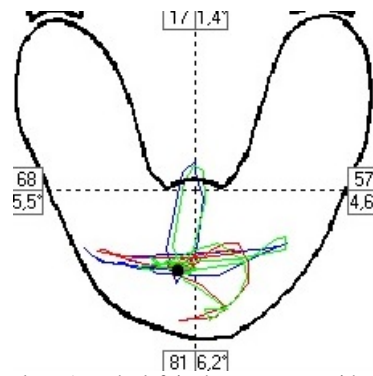


Fig. 13 Stellar kinesigram chart (appearance of a star always) on the left in the crurogram with respect to the X axis, during perturbation tests (pushes)

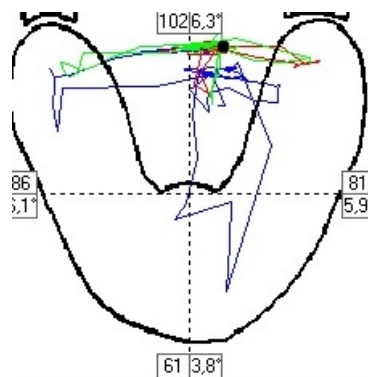


Fig. 14 Status kinesigram outside the crurogram to the right with respect to the Y and X axis, almost stellar, during disturbance tests (pushed)