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The french Rhône valley has traces of ancient roman parcels, testified by antique land registers, also called "Orange cadastre". This organization was highlighted on the left bank of the river. It seems to extend to the other side, in the Tave and Cèze valleys. All on the left bank of the river. It seems to extend to the "Orange cadastre". This organization was highlighted. These documents are selective. The tool used in this study is the histogram of directions. It consists in calculating the azimuth of each parcel boundary and drawing a histogram: the number of boundaries or their total length are shown as a function of azimuth. The interests of working with the cadastral are all information contained in these documents, whose precision allows a detailed study of cadastral frames. This method was first validated on previously studied areas and then extended to the Cèze and Tave lower valleys. This helped to detect the presence of "Orange cadastre" in these two valleys, where the method by optical filtering had not delivered convincing results. The use of these vector data for the detection of ancient cadastral frames remains to this day unique in France. However its implementation is simple and permits a detailed study of the boundaries structure. The results are encouraging and allow considering new approaches. It would be interesting to combine elevation and topographic data as well as ancient "Napoleonic cadastre", in the aim to eliminate 19th and 20th century boundaries. This will be the next step of this work.

References

1. Location map
   A. Antique land registers and the study area.
   B. "Orange A" cadastral registers.
   C. "Orange B" cadastral registers (blue).
   D. "Orange C" cadastral registers (green).
   E. "Orange D" cadastral registers (yellow).
   F. Cèze and Tave valley.

2. Optical filtering
   «Orange B» orientations filtering from aerial photographies between Orange (Vaucluse) and Diohene (Dol when)
   A. Aerial photographs (IGN 1979 [49], n° 1 and 2, 1970, 399 n°13 and 16).
   B. Obtained «Orange B» results and paths resulting.

3. Documentations
   A. Aerial photographs (BD Orthono®, © IGN).
   B. Topographic maps (carto®, © IGN).
   C. Cadastral maps (BDParcellaire®, © IGN).

4. Azimuth formula

5. Histogram of directions
   Number of boundaries function of azimuth in the Cèze and Tave valleys.
   A. Assessment
   B. Pentrem's results (around Bagnols-sur-Cèze).
   C. Gallo-roman other the Rhône.

6. Results
   a. Numerical results for B, C and D directions
   b. Summary of results