

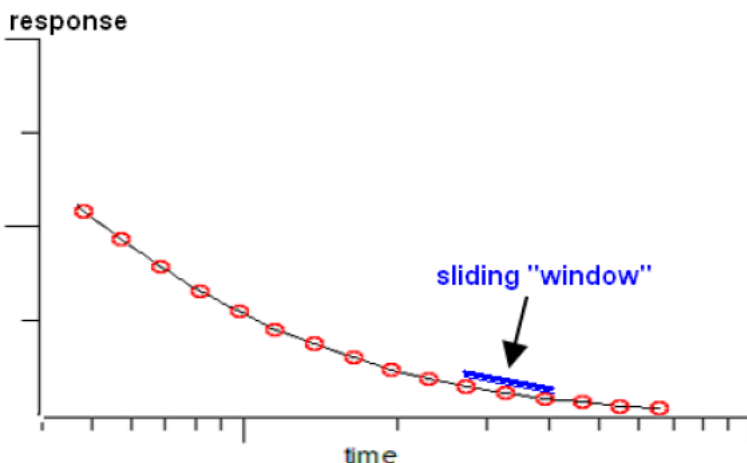


Automatic estimation of Transient Time Constant by sliding window TAU_slide.gx (developed by Alexander Prihodko)

Estimation of time constant parameter¹ in transient electromagnetic method is one of the steps toward the extraction of the information about conductivities beneath the surface from TEM measurements.

The most reliable method to discriminate or rank conductors from overburden, background or one and other is by calculating the EM field decay time constant (TAU parameter), which directly depends on conductance of the targets despite their depths and accordingly amplitude of the response.

The principle of the estimation is based on calculation of the constant in time window (2-4 time channels) which is sliding along the curve decay and looking for latest channels which have a response and decay.



Threshold is minimal level of TEM response for the calculating TAU and adjusted by user according to noise level and/or background level.

In the result TAU channel (msec) and Number channel is created in the database. Number channel consists of number of last (from 2-4) time channel of latest used window for TAU calculation in this particular point.

In other words if there are responses from overburden or background and from conductive target at the same time the program will extract TAU only from the target response.

¹ Misae N. Nabighian and James C. Macnae. Time Domain Electromagnetic Prospecting Methods. Electromagnetic Methods in Applied Geophysics. Part B. SEG, 1991.



Profiles of TAU

