

U-Pb Dating
July 2024
EGRU-JCU Townsville

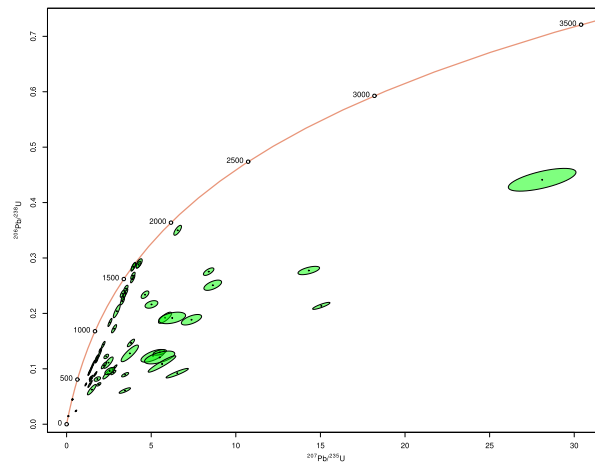
Sample: C23DD001 676-676.1

This sample has many discordant grains that experienced lead loss with only a few grains defining a discordia line.

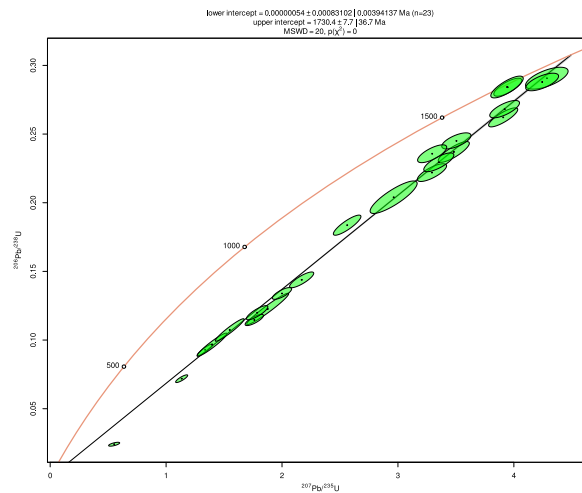
Possible discordia upper intercept age - **1730±8 Ma**. This age is younger than the weighted mean age of the oldest 2 concordant grains. This younger age could be influenced by the youngest 2 concordant grains.

Oldest concordant grains - **1747±29 Ma** (2 grains).

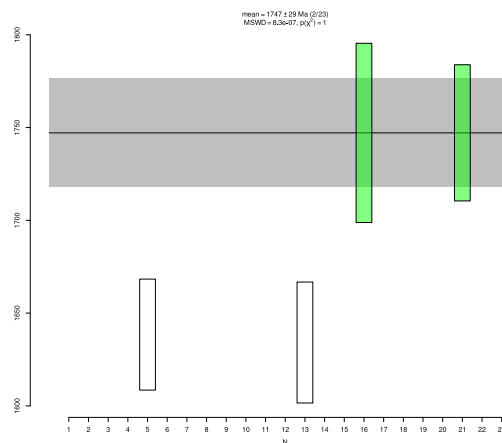
Youngest concordant grains - **1636±22 Ma** (2 grains).



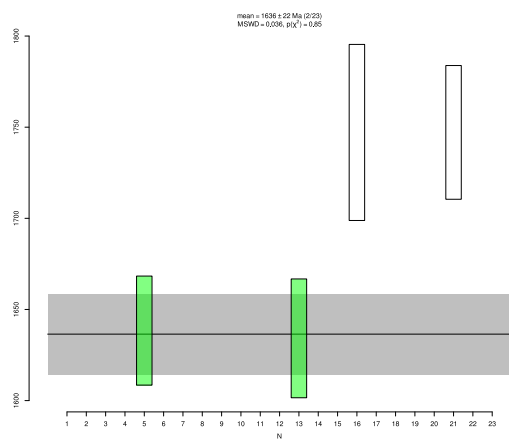
All data points



Cleaned concordia with only grains that align along the discordia line



Weighted mean age of the oldest concordant grains



Weighted mean age of the youngest concordant grains

Sample: C23DD001 746.5-746.6

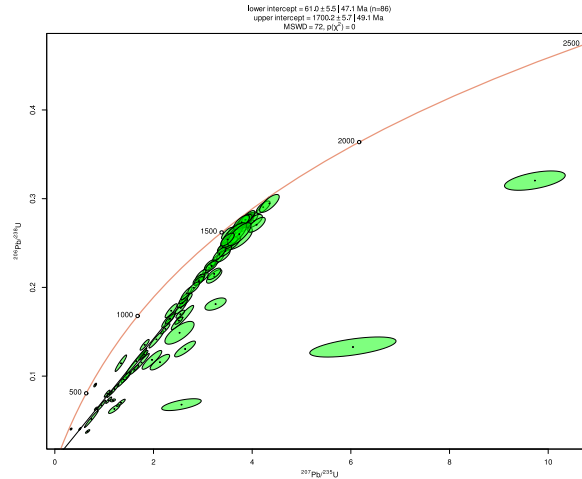
This sample has a few grains that experienced lead loss. Most grains are discordant and define a discordia line.

Possible discordia upper intercept age for all samples defining a discordia line **1698±6 Ma**. This age must be treated with care because it contains more than one population of concordant grains.

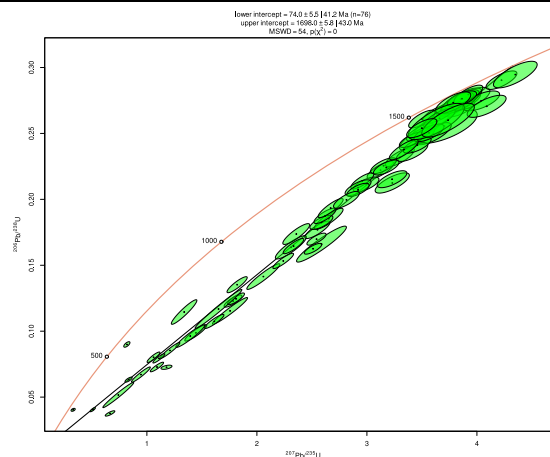
The oldest concordant grains have a combined weighted mean age of **1730±30 Ma (2 grains)**.

The main population has a weighted mean age of **1654±11 Ma (14 grains)**.

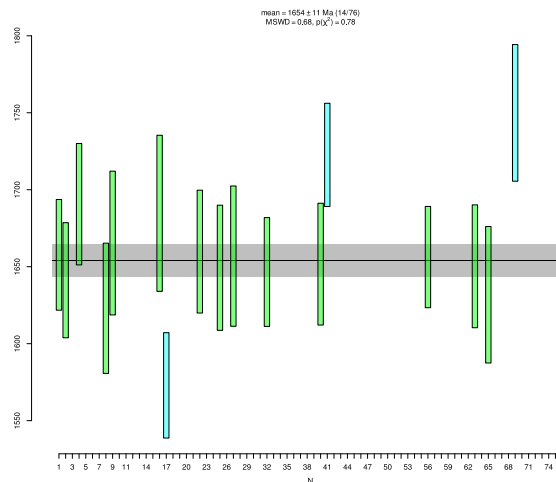
The youngest concordant grain has a weighted mean age of **1574±35 Ma**.



All data points



Cleaned concordia with only grains that align along the discordia line



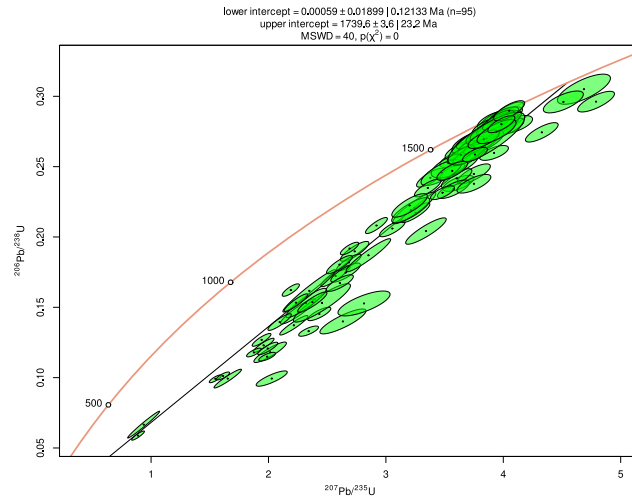
Weighted mean of the main population of concordant analyses. Also shown the oldest and youngest concordant grains.

Sample: C23DD001 858.6-859.0

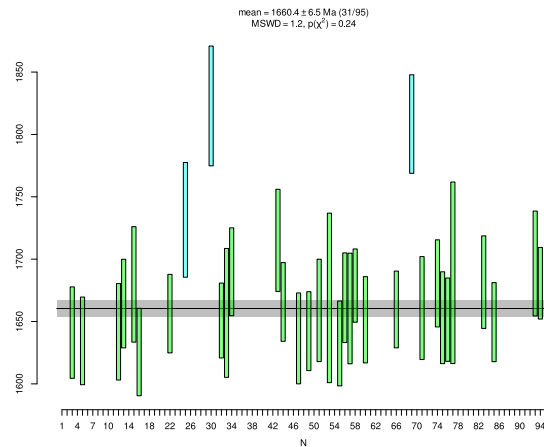
Most grains in this sample are discordant. It is not possible to define a clear upper discordia intercept without significant user input. The discordia age of **1740±4 Ma** must be treated with care.

Most concordant grains define a single population with a weighted mean age of **1662±6 Ma (31 grains)**.

There are two older concordant grains with a weighted mean age of **1814±32 Ma** and one concordant grain with age of **1732±46 Ma**.



All data points. The discordia age must be treated with care since it includes all data points.



Weighted mean age of the main population of concordant analyses. Also shown 3 older concordant zircon grains.

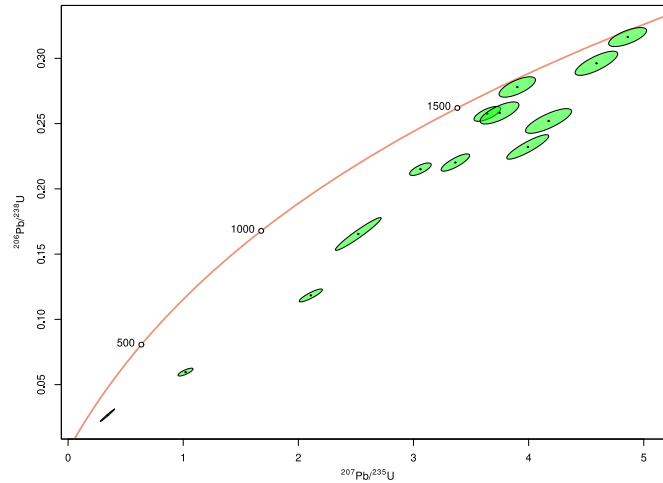
Sample: C23DD001 985.15-985.2

This sample returned only a few zircon grains. Most grains are discordant and do not define a clear discordia.

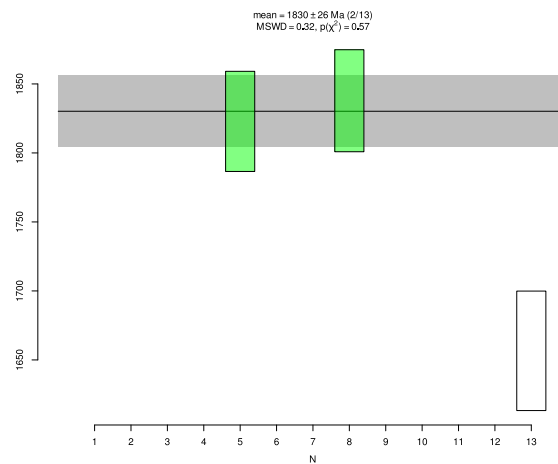
There are only 3 concordant grains in this sample.

The oldest 2 concordant grains have similar ages and define a weighted mean age of **1830±26 Ma**.

The youngest concordant grain has an age of **1657±43 Ma**.



All data points

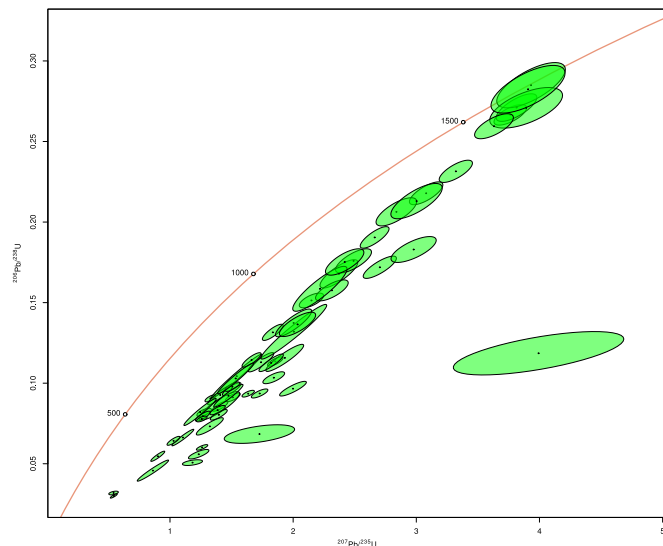


Weighted mean age of the oldest 2 concordant grains. Also shown is the youngest concordant grain.

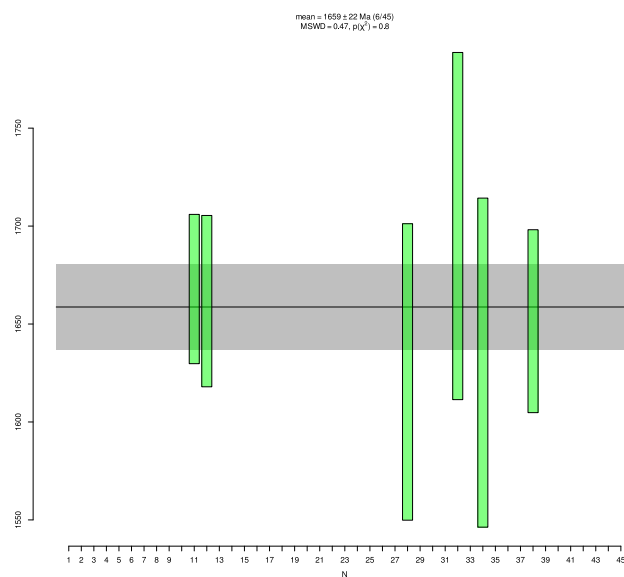
Sample: C23DD002 675.5-675.7

Most zircon grains are discordant and a few grains experienced lead loss. It appears to contain only one zircon population but no reliable discordia upper intercept could be calculated without significantly “cherry-picking” the analyses.

There are 6 concordant zircon grains that return a weighted mean age of **1659±22 Ma**.



All data points

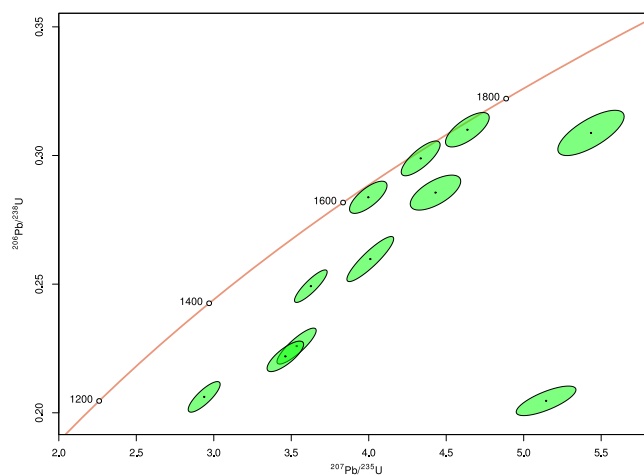


Weighted mean age, concordant grains only

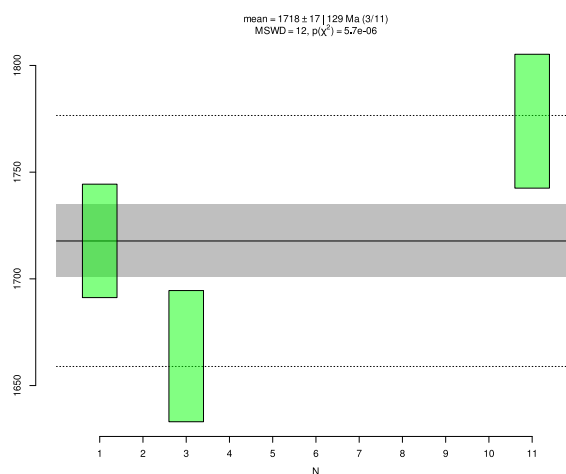
Sample **C23DD003 900.4-900.8**

This sample yielded only a few zircon grains. Most grains are discordant but no reliable discordia can be constructed.

Only three concordant grains were found at **1774±31 Ma**, **1718±27 Ma** and **1664±31 Ma**.



All analyses



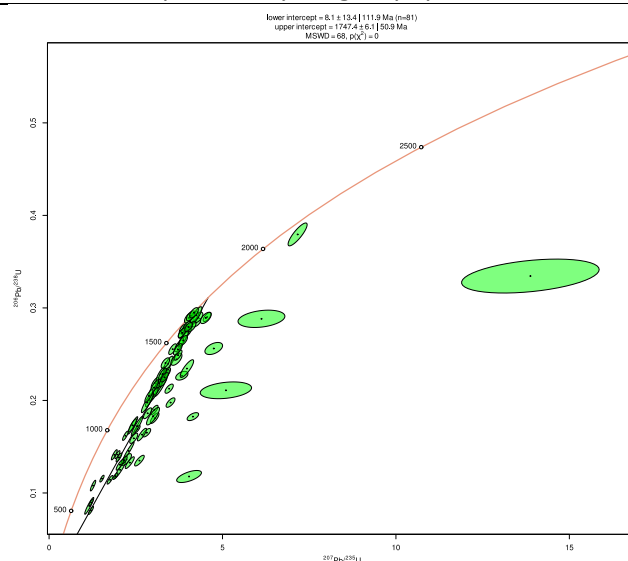
Only concordant grains.

Sample: C23DD003 910.6-910.7

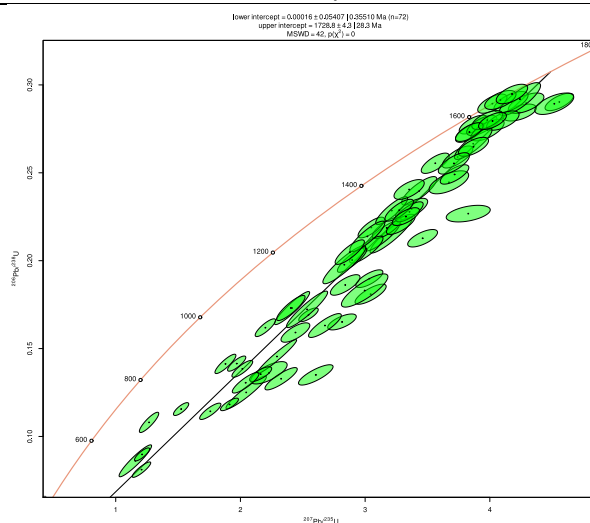
Most zircon grains are discordant with a high number of grains showing lead loss. The upper concordia intercept age of **1729±4 Ma** is a mixed age so should be treated with care.

There are 15 concordant grains in this sample that spread between **~1770 Ma ~1640 Ma**.

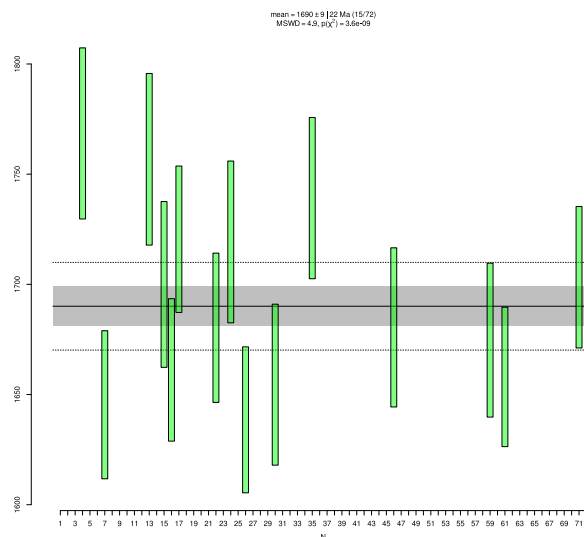
Using the radial plot function in IsoplotR the youngest population has an age of **1657±25 Ma**.



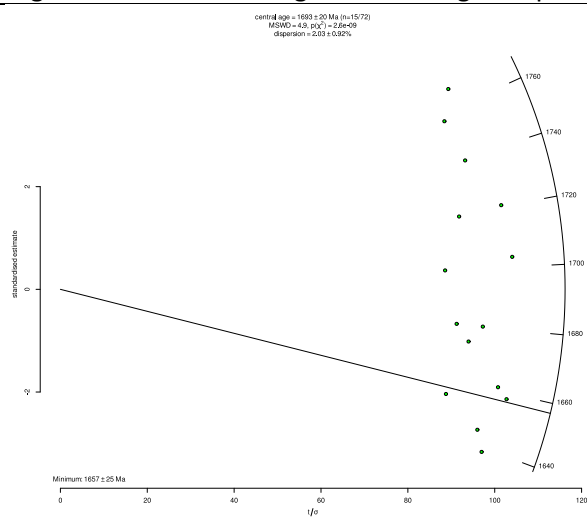
All analyses



Cleaned concordia plot showing the discordia upper intercept



Weighted mean average for the concordant grains showing the spread of concordant ages



Radial plot showing the minimum age for this sample based on the concordant grains only.

Sample: C23DD003 919.5-919.9

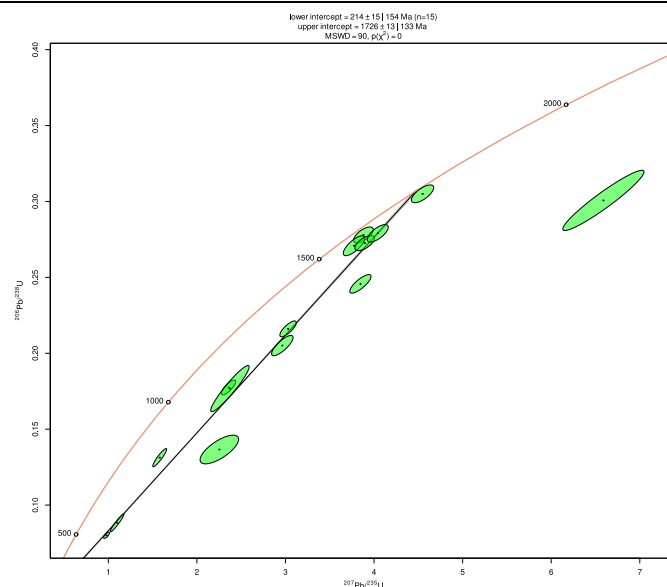
This sample contains only a few zircon grains, most being discordant. The upper discordia intercept of 1726 ± 13 Ma should be treated with care.

There are only 5 concordant grains in this sample.

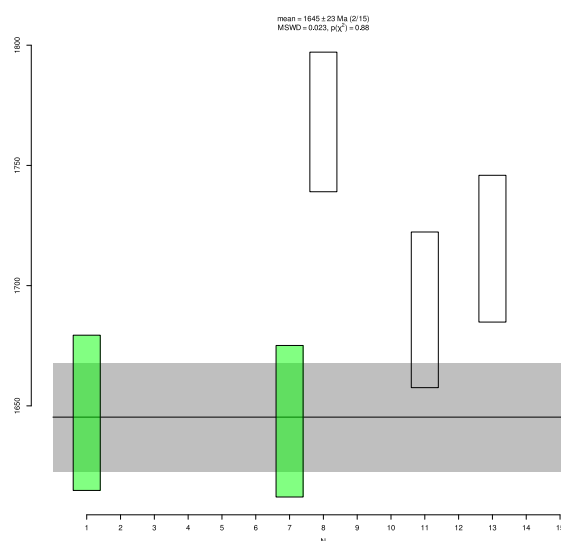
The youngest 2 grains have a weighted mean age of **1645 ± 23 Ma**.

The next oldest 2 grains have a weighted mean age of **1703 ± 22 Ma**.

The oldest concordant grain has an age of **1768 ± 29 Ma**.



All analyses



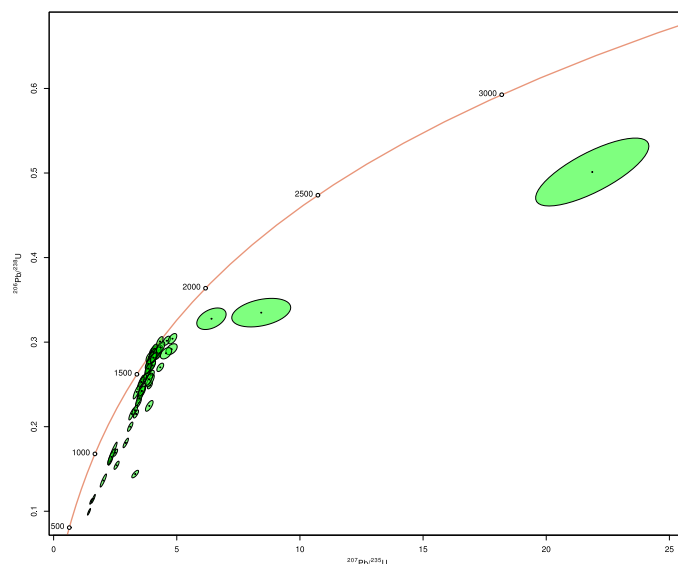
Weighted mean age of the youngest concordant grains. Also shown the older concordant grains.

Sample: C23DD003 925.0-925.6

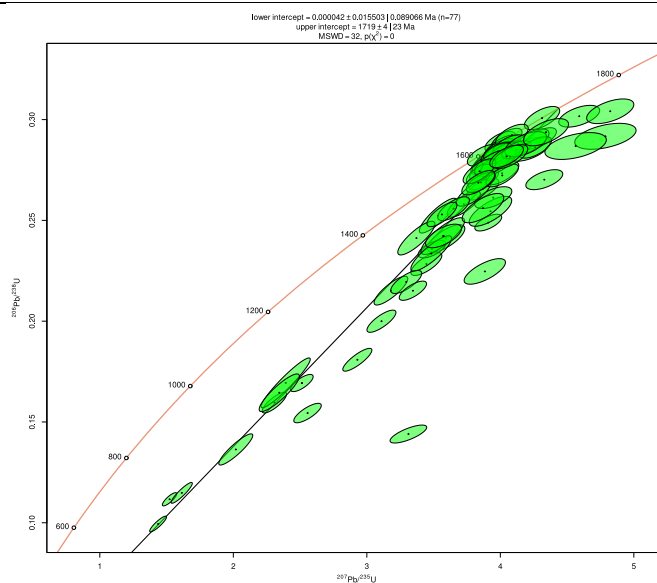
Most analyses are discordant with a high number of grains with lead loss. The discordia upper intercept age of 1719 ± 4 Ma must be treated with care because it results from analyses belonging to multiple populations.

There are 39 concordant grains in this sample between **~1870 Ma** and **~1640 Ma**.

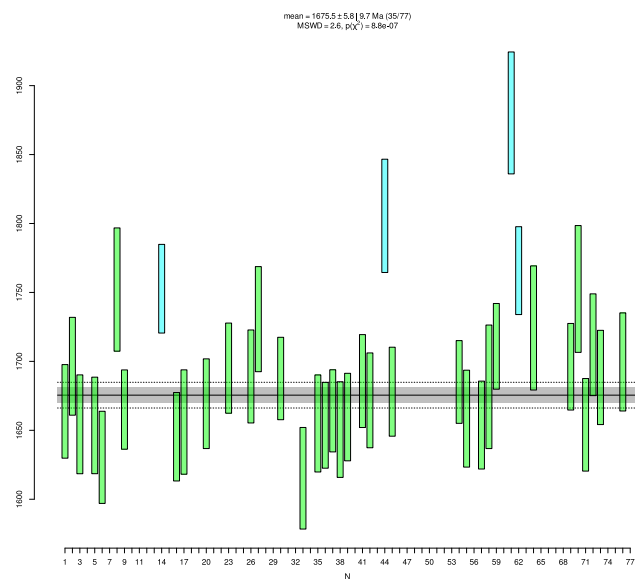
The youngest population using the radial plot function in IsoplotR is **1663 ± 13 Ma**.



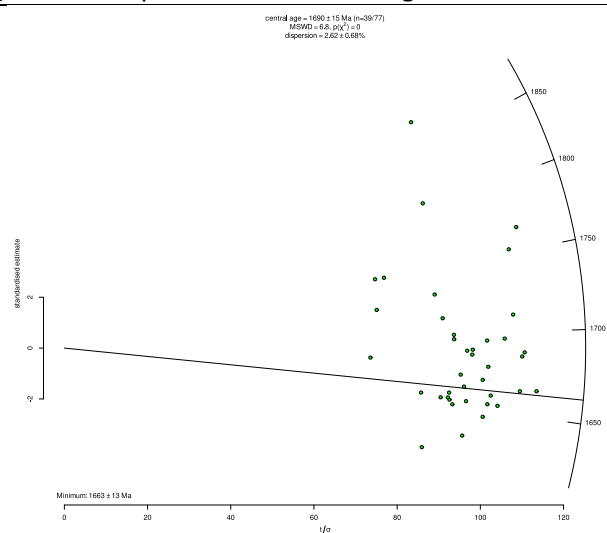
All analyses



Cleaned concordia showing the discordia upper intercept. The cluster of analyses near the concordia line indicate the presence of multiple populations of concordant grains.



Weighted mean plot of all concordant grains from this sample.



Radial plot showing the minimum age for this sample