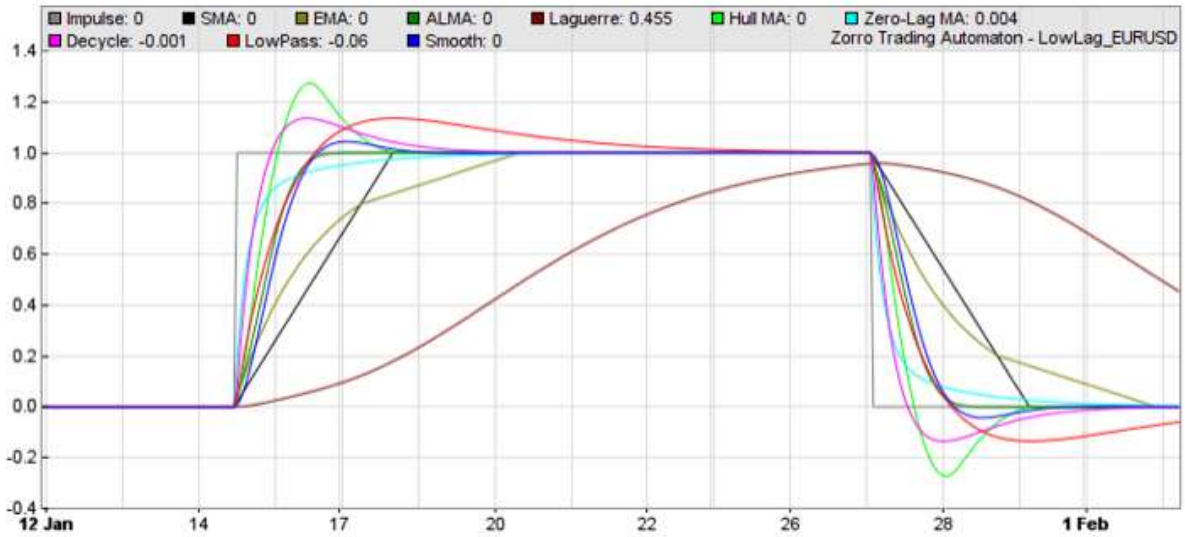
ALMA / ALMA ADAPTIVE MOVING AVG

WHY?

Why use this particular moving average, because of trend smoothness and accuracy at turning points. For example at any turning point an ema will undershoot, a more modern average like Hull will often overshoot, and a SMA moving doesn't achieve as much smoothness for a given responsiveness. This accuracy at turning points means it can be confidently used with an indicator color change to show market turns, also it could be used an accurate low lag input to EA's. If using a moving average cross false cross overs are minimized.

See diagram below shows a range of moving averages:



Note: Chart taken from www.financial-hacker.com/trend-delusion-or-reality

Other Website links:

https://www.forexfactory.com/attachment.php?attachmentid=1123528&d=13590...

BASIC DESCRIPTION

ALMA makes gaussian approximation of the average where it assumes extremes aren't the norm hence there is a set look back parameter. This allows a bias back in time, for example a 15% it 0.15 look back parameter of 100 period weights data 15 bars back higher than current data. Combine that with the Gaussian approximation and you get a smooth moving average that can turn at sharp market turns accurately and responsively.

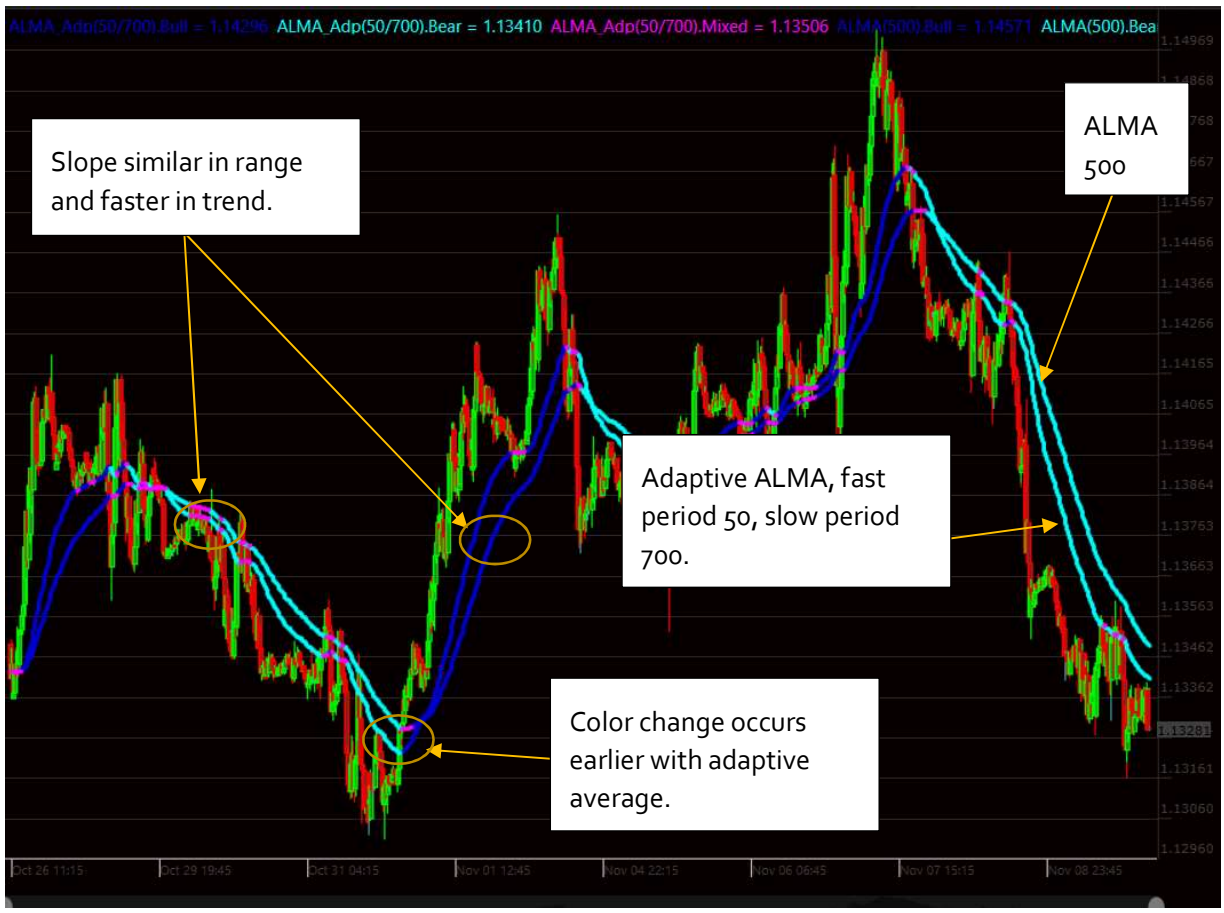
ALMA ADPATIVE

Often when setting a moving average period a certain type of market condition is assumed. To get around this people often use quite a number of moving average periods on their charts. An adaptive moving average allows setting a different type moving average for different type of market conditions, for example a larger period /slower moving average period for range markets and smaller period /faster moving average periods for market breakouts.

In the case of this shared adaptive ALMA a fractal dimension approximation is made to adjust the ALMA period. The 'fractal dimension' might sound complex but what this means in basic terms is how does a squiggly line fill in an area over a smaller relative to longer period (think is everything ranging or have the last few bars broken out).

The calculation used is the same as FRAMA (see http://mesasoftware.com/papers/FRAMA.pdf) except ALMA is used rather than an EMA. The fractal calculation is simplistic and probably quite inaccurate but highly responsive and adjusts with every bar hence it good enough to adjust in real time. When trialing the calculation I added an additional inverse fisher transform to more quickly move between ranging and trending (see http://www.mesasoftware.com/papers/TheInverseFisherTransform.pdf).

COMPARISON BETWEEN SET PERIOD ALMA AND ADPATIVE ALMA



NOTES ON THRESHOLD

Both the shared ALMA and Adpative ALMA moving averages have three colors. A color for uptrends and downtrends and a third for flat markets. The change in color is made by a set threshold in the indicator settings. Whenever the slope is small than the threshold then the color is flat, larger than threshold color is uptrend and down it is in downtrend.