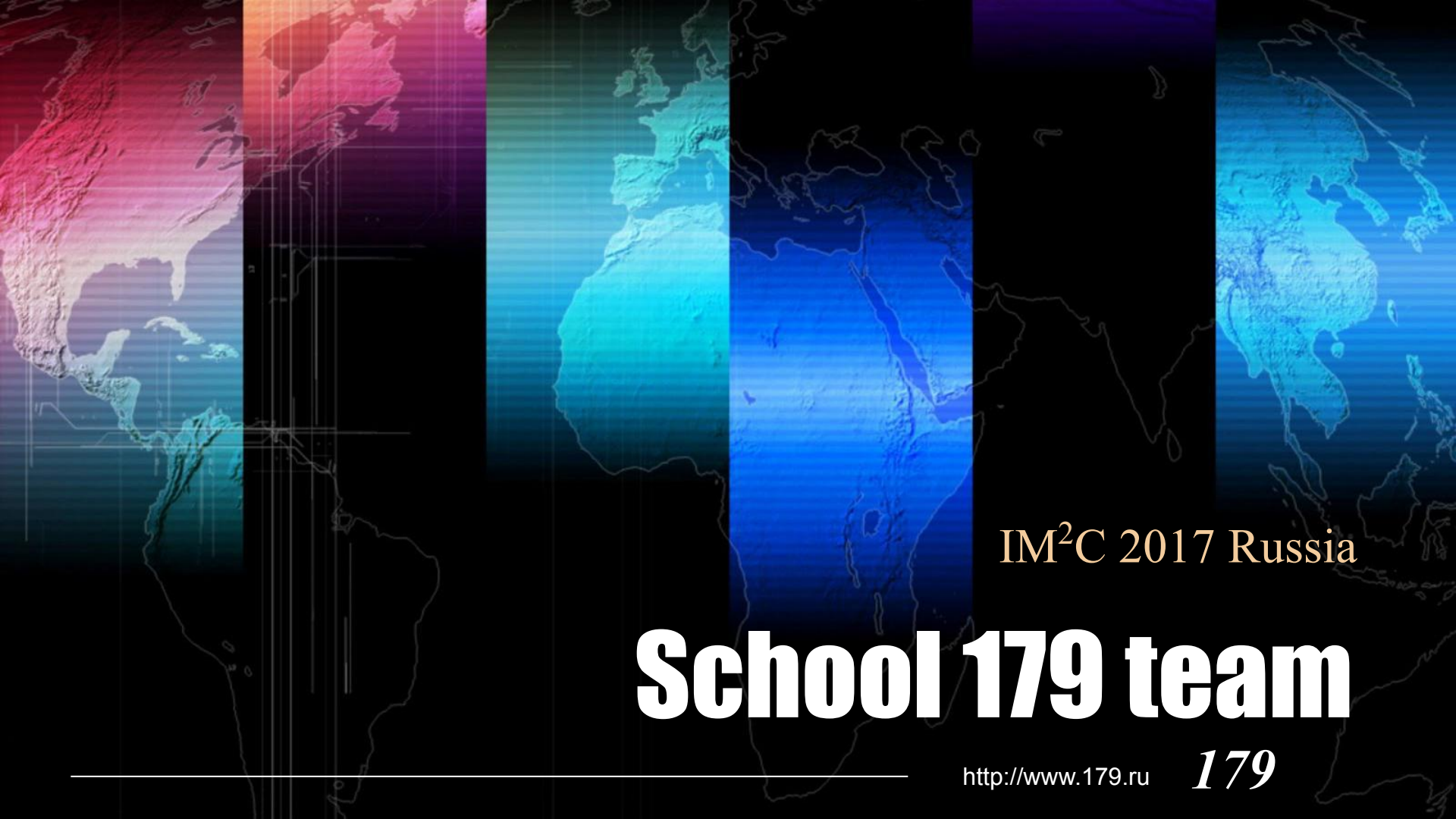

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Something new

- 1801 Richard Trevithick invented transport, based on steam power.
- 1830 in the United Kingdom started working first passengers` railway.
- 1840 speed of travel grew so high, that governments were forced to Introduce The time zones.

And more new

- 1900 Wright brothers` flying machine took off the earth.

- 1913 in the Russian Empire started first passengers` flights.

- Nowadays everyone can fly to every part of the world for a few hours.

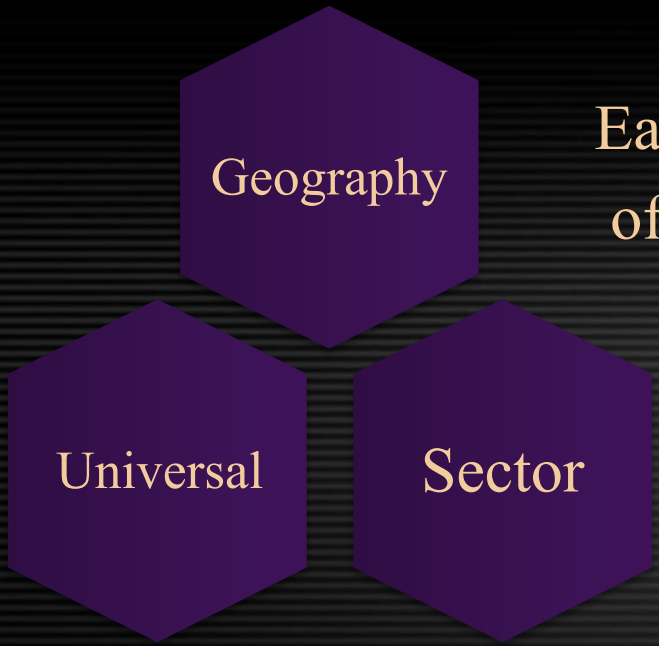
New inventions – new problems

- Speed is high, but price is high too.

- Try to minimize this problem – try to seek optimal meting place.

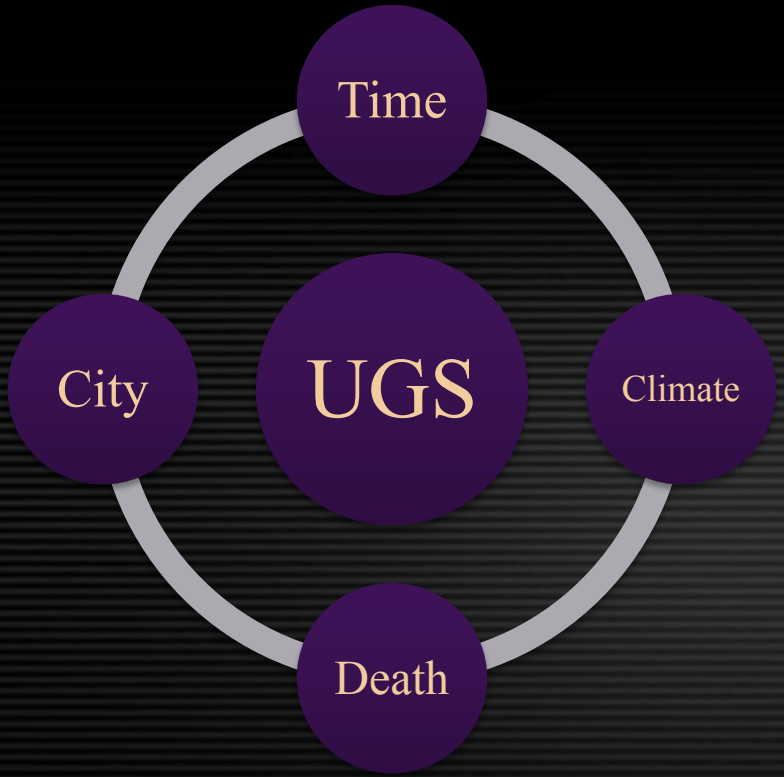
ALGORITHM AND BASE

UGS



Earth is a multiplicity of sectors.

UGS

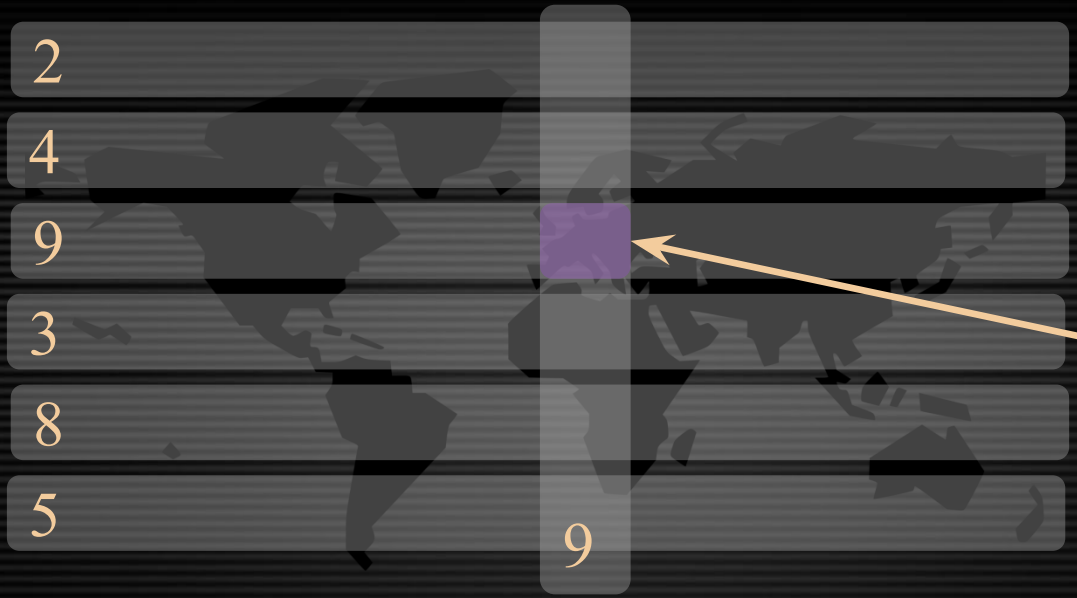


Every UGS has important parameters

Algorithm

Algorithm

Algorithm



JETLAG

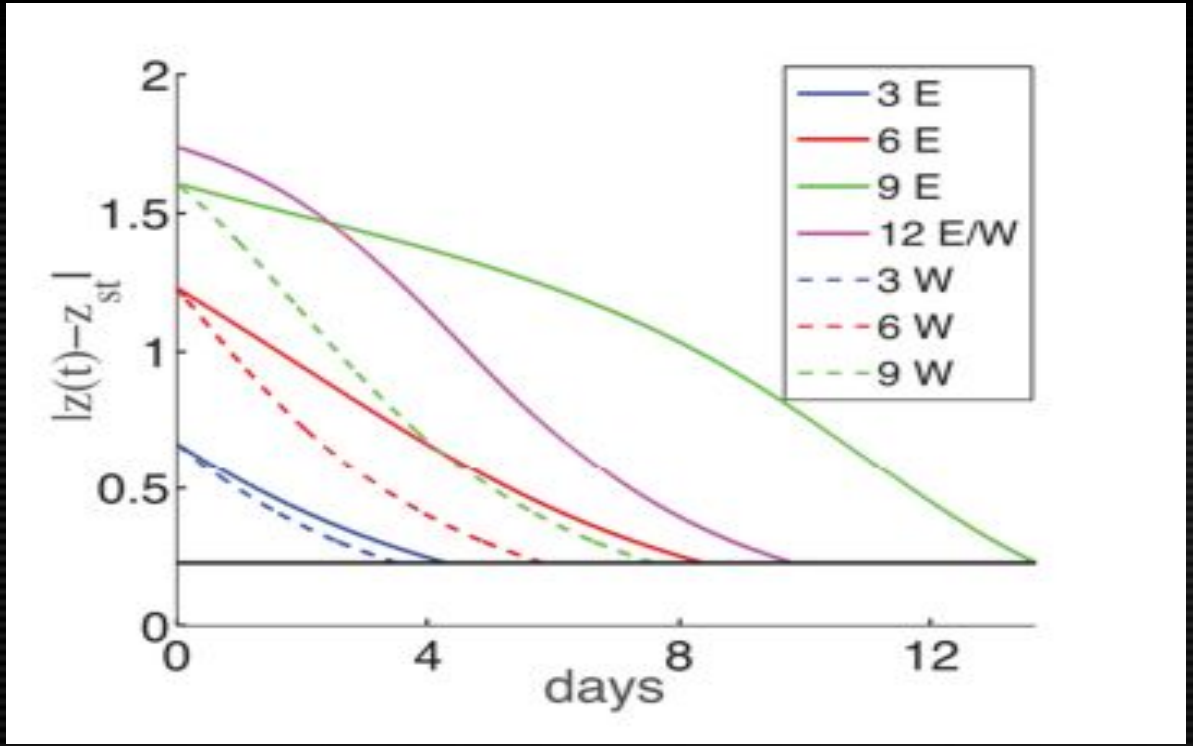
Phenomenon itself

Jetlag is a process which starts after changing Time Zone.

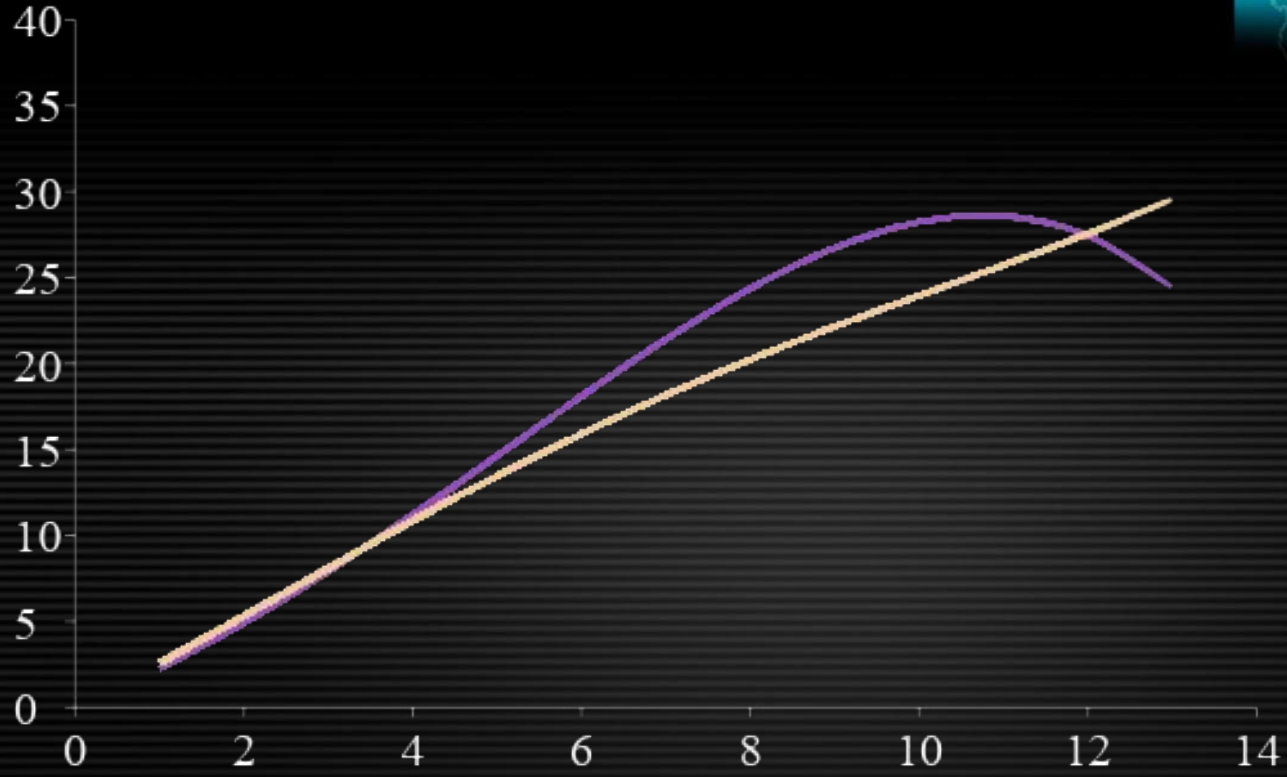
Calculating algorithm

How to calculate

Base of extrapolating.



Calculating difference



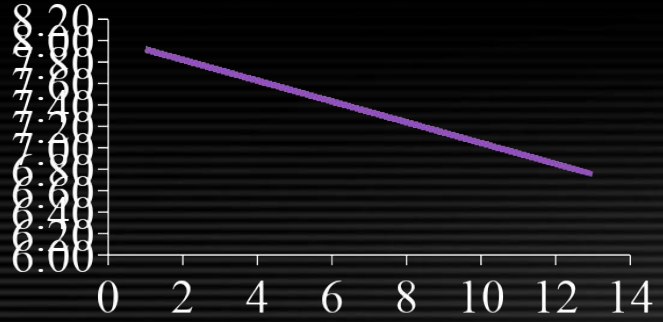
ACCLIMATIZATION

Phenomenon itself

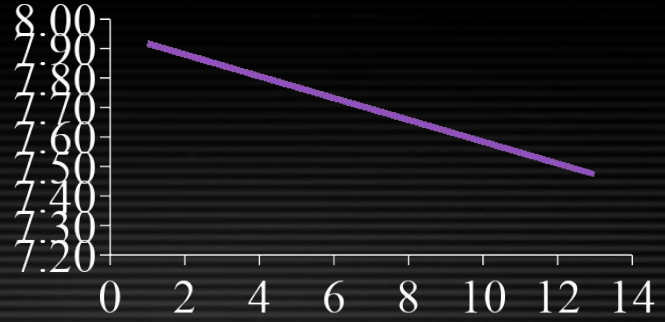
Acclimatization is a process which starts after changing climate conditions.

Research

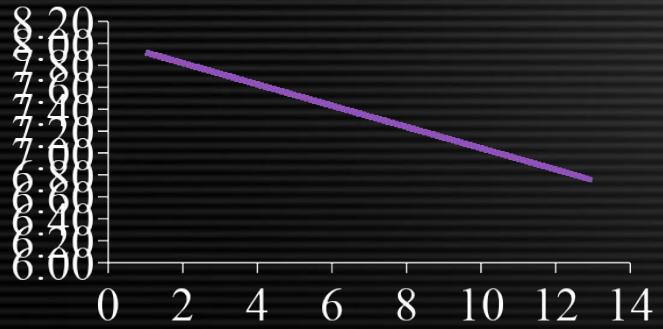
Pressure



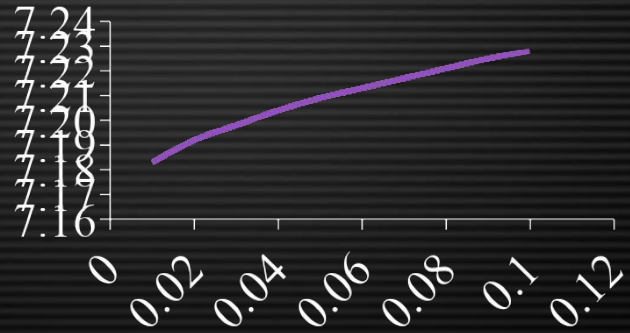
Air temperature



Inside temperature



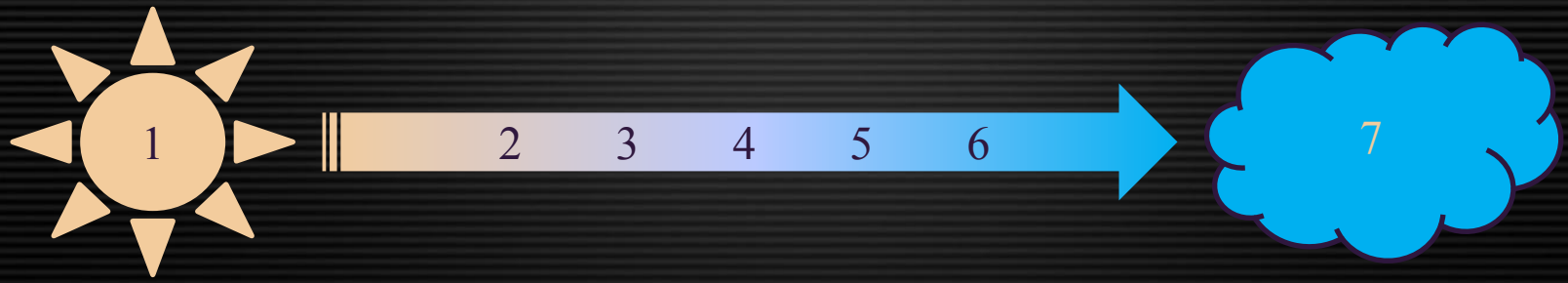
Wind speed



Van-Zeilen equation

To calculate comfort

$$K = 7{,}83 - 0{,}0968t_r - 0\ {,}0367P_a + 0\ {,}0367\sqrt{v}(37{,}8 - t_a)$$



Calculating algorithm

Comfort in first climate

−

Comfort in second climate

=

Climates differences

Comfort difference

- To the warm side ($Kr > 0$):

$$K_r = 0{,}1(t_{a2} - t_{a1}) + 0{,}00372 * (P_{a2} - P_{a1}) + \\ +0{,}0367(\sqrt{v_1}\,(37{,}8 - t_{a1}) - \sqrt{v_2}(37{,}8 - t_{a2}))$$

- To the cold side ($Kr < 0$):

$$K_r = (0{,}1(t_{a2} - t_{a1}) + 0{,}00372 * (P_{a2} - P_{a1}) + \\ +0{,}0367(\sqrt{v_1}\,(37{,}8 - t_{a1}) - \sqrt{v_2}(37{,}8 - t_{a2})))/2$$

COST

Money makes the world go round

Long way – big cost

The calculating formula

$$\begin{cases} l < 1000 \\ s = (l * 9{,}08) + \left\lfloor \frac{l}{1000} \right\rfloor * 100 \end{cases}$$

$$\begin{cases} 1000 < l < 3000 \\ s = (l * 9{,}08) * 0{,}9 + \left\lfloor \frac{l}{1000} \right\rfloor * 100 \end{cases}$$

$$\begin{cases} 3000 < l \\ s = (l * 9{,}08) * 0{,}85 + \left\lfloor \frac{l}{1000} \right\rfloor * 100 \end{cases}$$

CONCLUSION

Model`s characteristics

- ✔ Avoid to compare power of different factors
- ✔ None uncountable parameters
- ✔ Possible to up accurate
- ✔ Final product

- Model neglects another factors.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Thank you for attention
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179