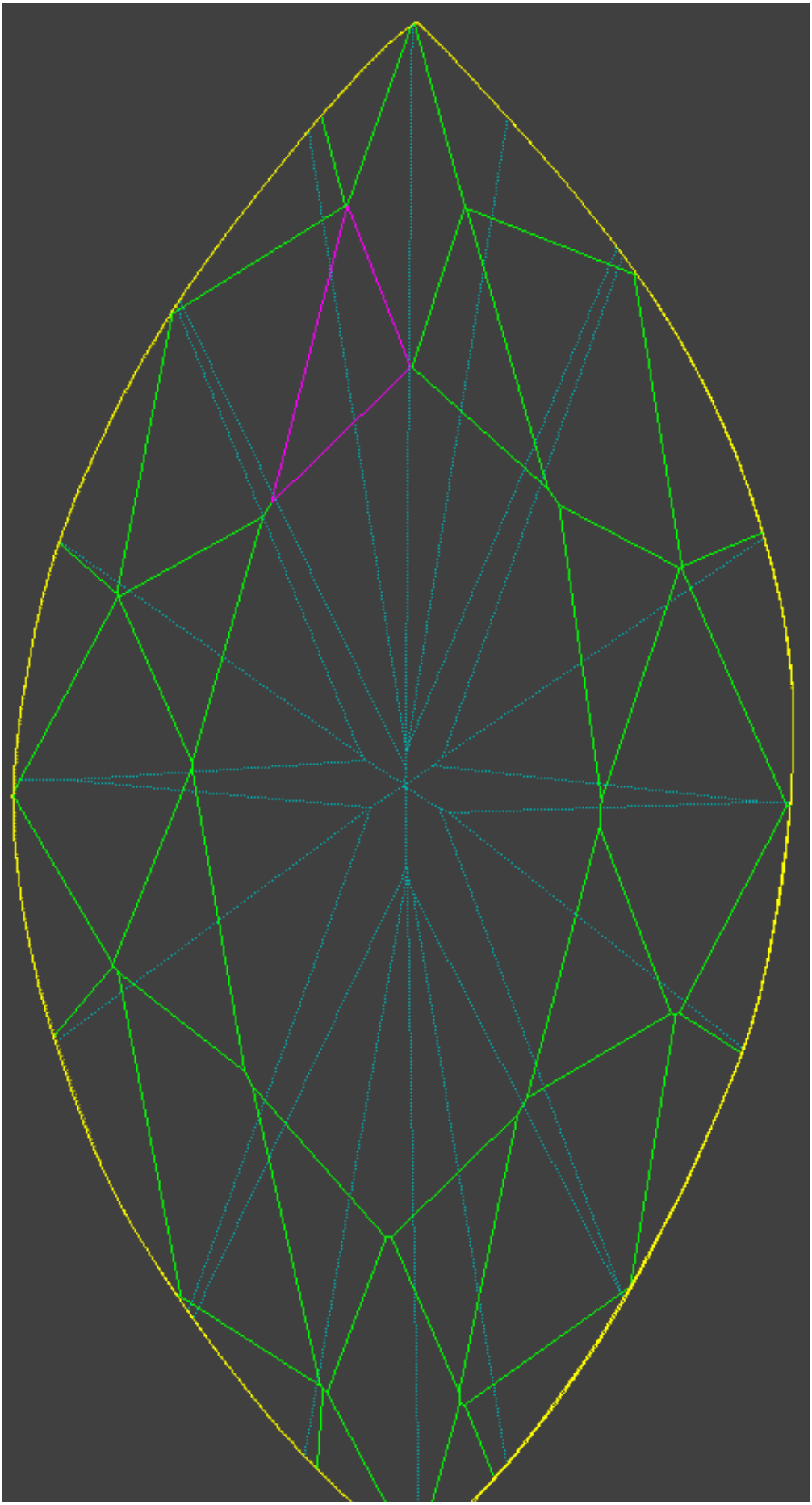
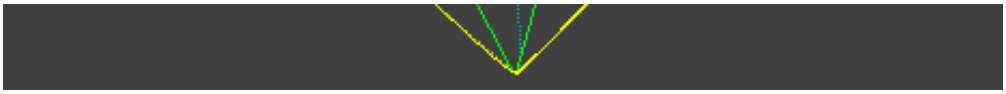
Star \ Upper ratio

- 1. Calculation on first star facet example highlighted with pink
- 2. Calculation on second star facet example highlighted with pink
- 3. Star \ Upper ratio parameters in report
- 4. Notes

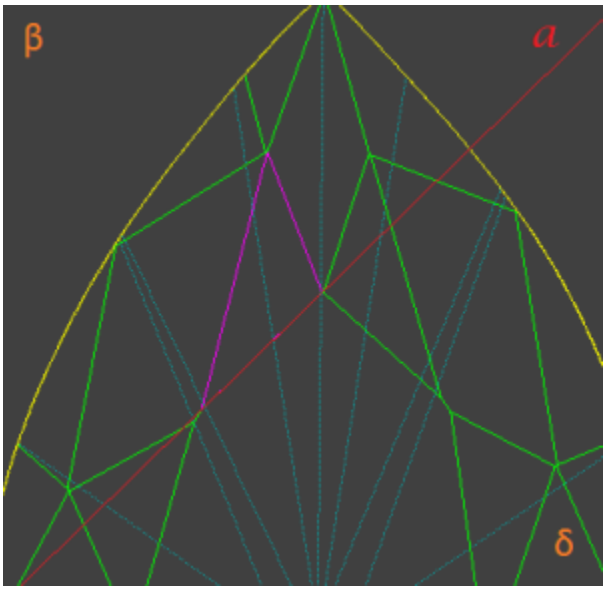
1. Calculation on first star facet example highlighted with pink



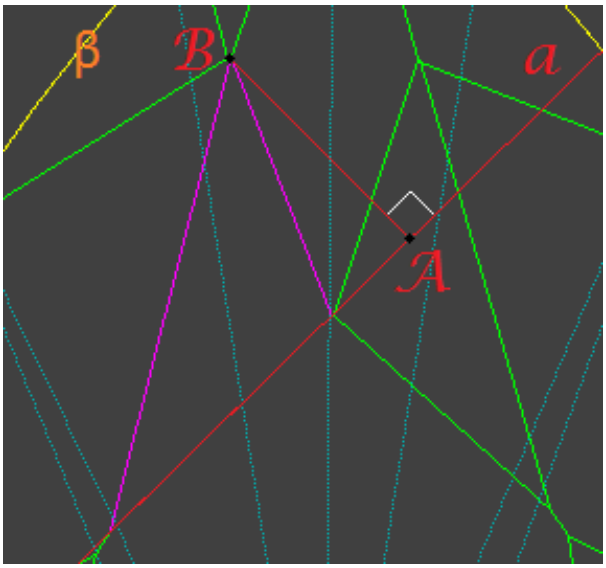


⚠ All calculation are performed in 2D. Model is projected on table facet plane

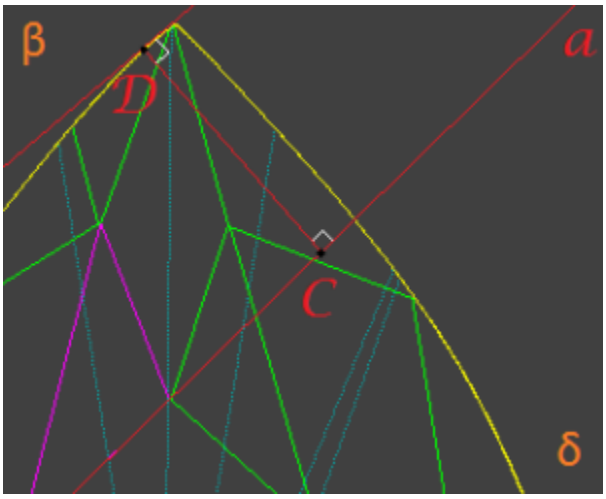
1.1 Draw line **a** through star facet edge belongs to table facet. Line will separate plane into half-planes and :



1.2 Find most distant point (call it **B**) on star facet from line **a**. **A** is point, where perpendicular from point **B** is crossing line **a**:



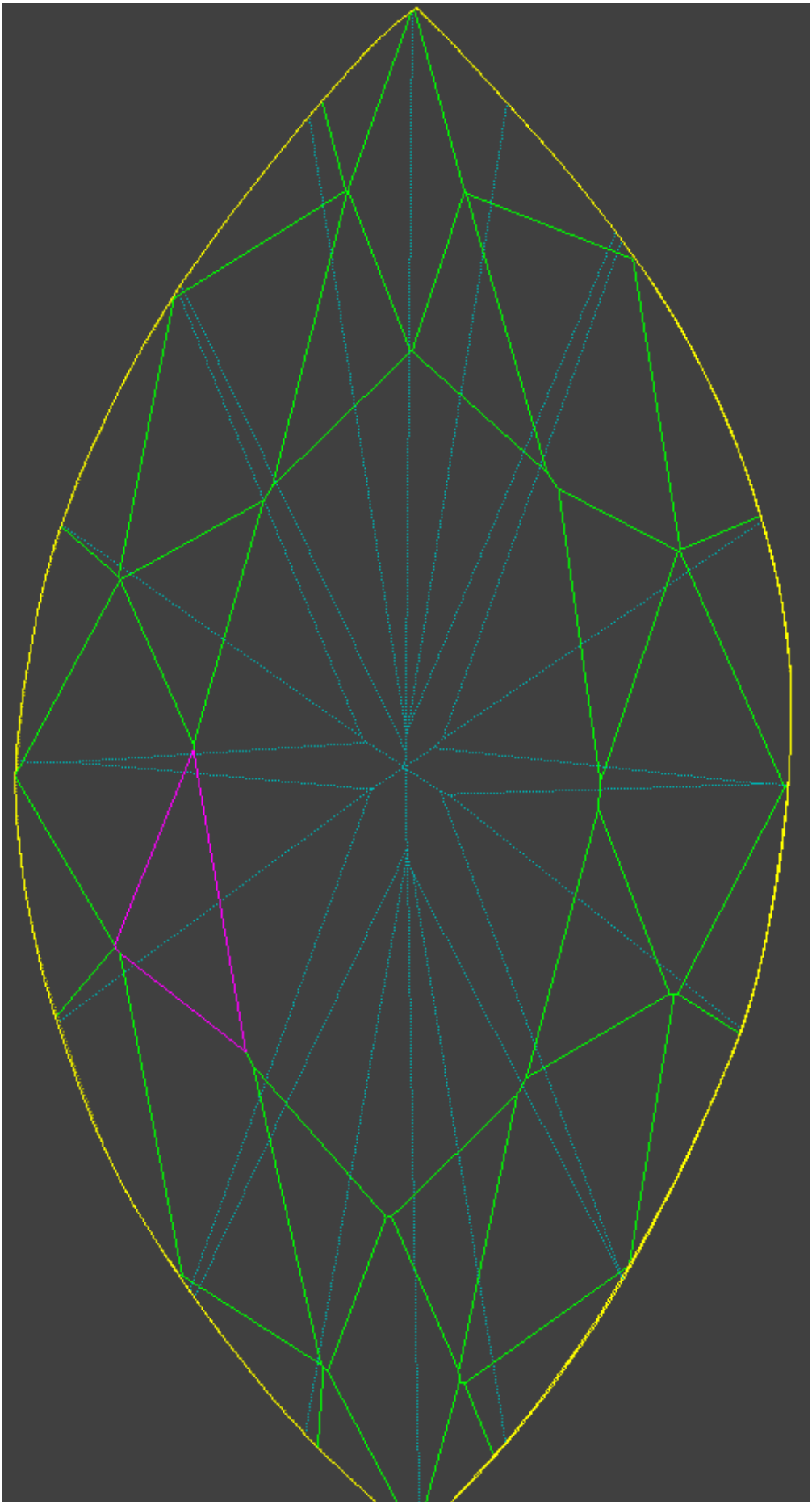
1.3 Find most distant point on girdle (call it **D**) from line **a**, point should belong to half-plane. **C** is point, where perpendicular from point **D** is crossing line **a**:

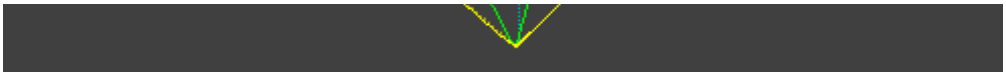


1.4 **Star ratio** is **|AB|** length divided by **|CD|** length and transferred to percentage view.

1.5 **Upper ratio** is equal to expression result **(100%** - **Star ratio)**.

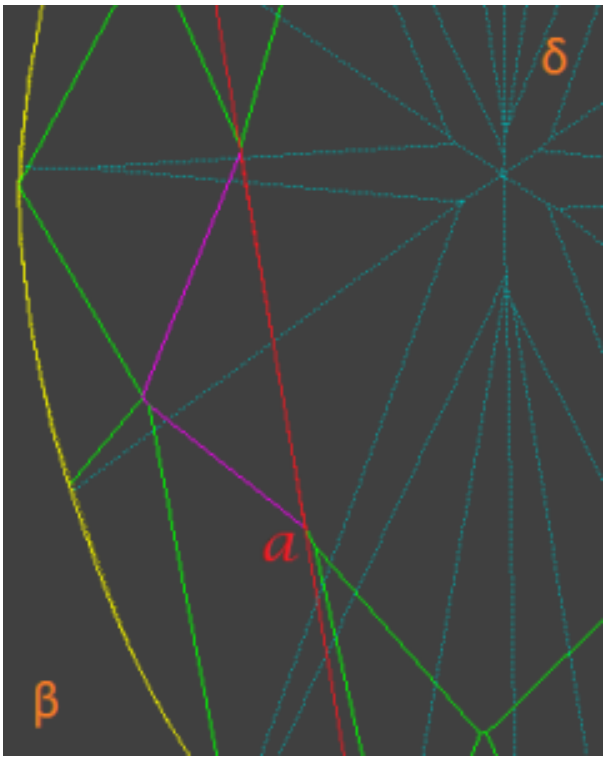
2. Calculation on second star facet example highlighted with pink



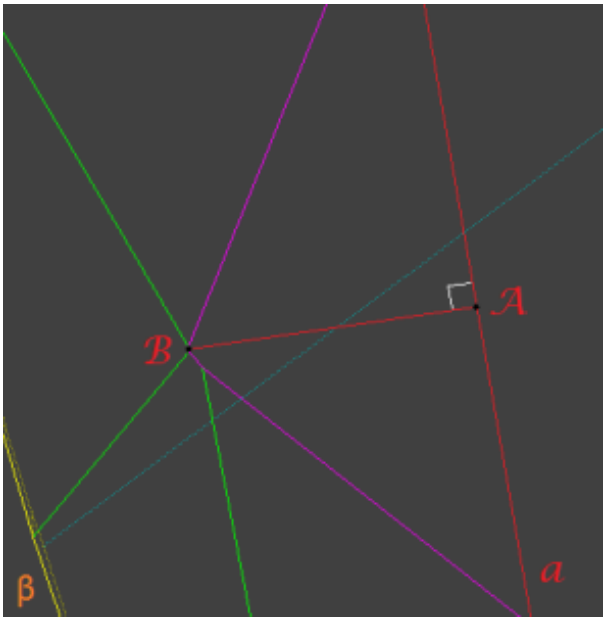


⚠ All calculation are performed in 2D. Model is projected on table facet plane

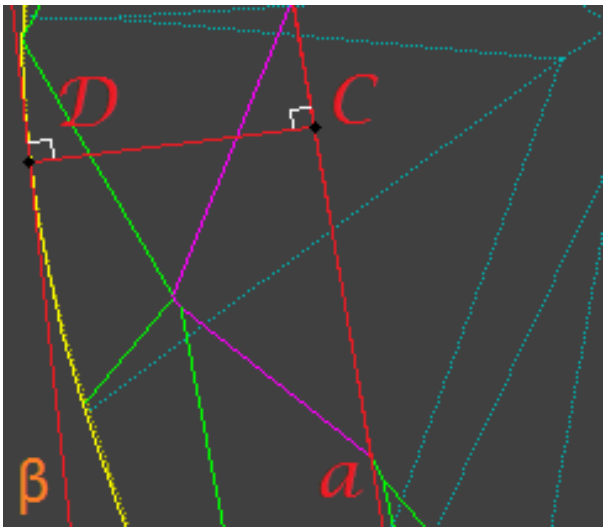
2.1 Draw line **a** through star facet edge belongs to table facet. Line will separate plane into half-planes and :



2.2 Find most distant point (call it **B**) on star facet from line **a**. **A** is point, where perpendicular from point **B** is crossing line **a**:



2.3 Find most distant point on girdle (call it **D**) from line **a**, point should belong to half-plane. **C** is point, where perpendicular from point **D** is crossing line **a**:



2.4 **Star ratio** is **|AB|** length divided by **|CD|** length and transferred to percentage view.

2.5 **Upper ratio** is equal to expression result **(100%** - **Star ratio)**.

3. Star \ Upper ratio parameters in report

3.1 Star \ Upper ratio can be found in Main and Detailed Parameter part of full report, for example:

Main parameters:

Parameter		Avg	Min	Max	Dev
Star :	%	61.39 :	53.29 :	71.25 :	17.96
Upper ratio		38.61	46.71	28.75	

Detailed parameters:

Parameter		1	2	3	4	5	6	7	8
Star :	%	59.00 :	63.52 :	71.25 :	58.42 :	61.37 :	64.69 :	59.55 :	53.29 :
Upper ratio		41.00	36.48	28.75	41.58	38.63	35.31	40.45	46.71

3.2 Following bookmark are used for **Star ratio**:

- STAR_RATIO_PC
- STAR_RATIO_PC_1 - STAR_RATIO_PC_8
- STAR_RATIO_PC_DEV
- STAR_RATIO_PC_MIN
- STAR_RATIO_PC_MAX

3.3 Following bookmark are used for **Upper ratio**:

- UPPER_RATIO_PC
- UPPER_RATIO_PC_1 - UPPER_RATIO_PC_8
- UPPER_RATIO_PC_DEV
- UPPER_RATIO_PC_MIN
- UPPER_RATIO_PC_MAX

3.4 **Star \ Upper ratio** can be found in following report types:

- 8-Facet report
- Full report
- Illustrated report

3.5 **Star \ Upper ratio** is calculated for following cutting types:

- Round brilliant (RBC)
- Round fancies (oval, marquise, heart, pear and etc)
- Cushion

4. Notes

- If you have any question, please ask it in comments or send e-mail to developer.
- If you find mistake, please describe it in comments or send e-mail to developer.