Assignment 3

Interactive Data Visualization

SS 20

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PADERBORN UNIVERSITY
Computergraphics, Visualization & Image Processing

Topics:

2D Spatial Data, Histogram Equalization, Color Transformation

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Assignment 3

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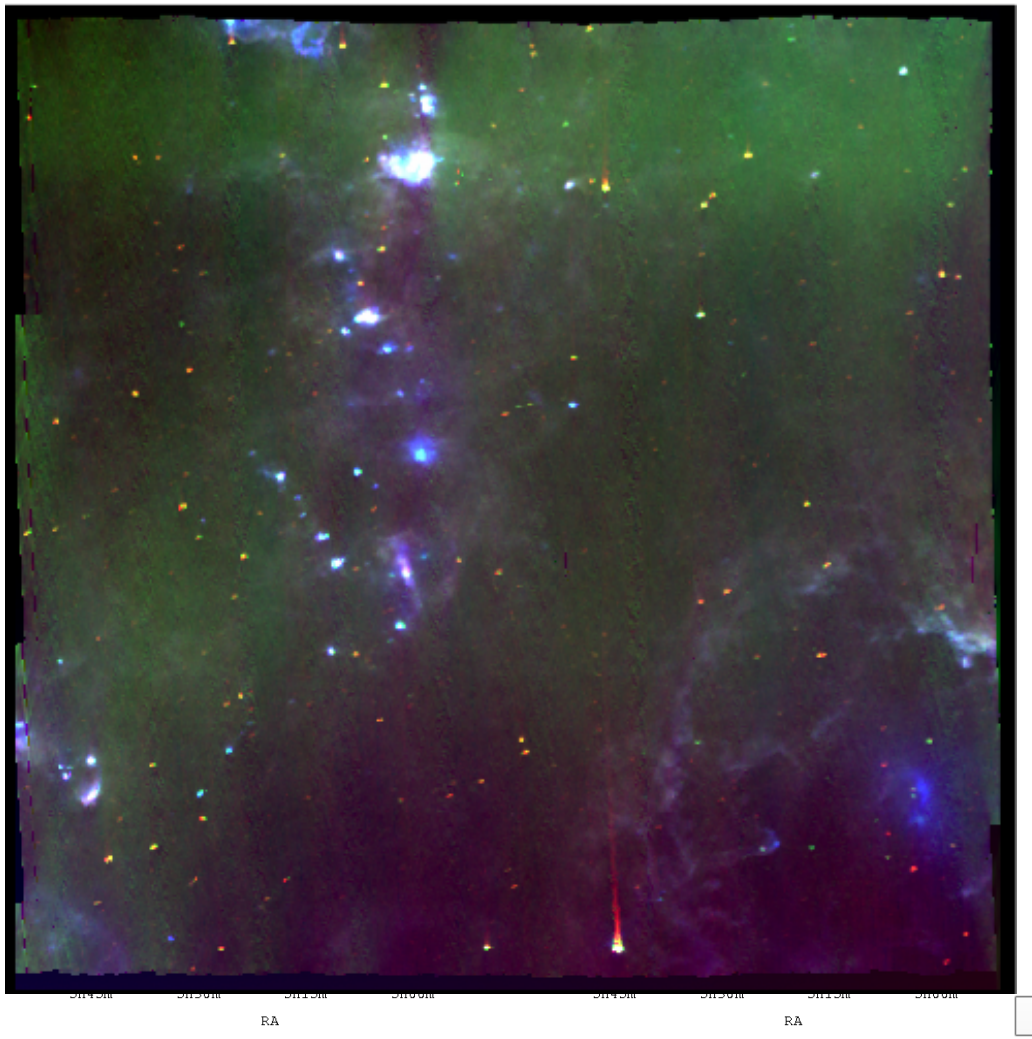
Given:

- Description:
  - DataCharacterstics.txt
  - AllBands.png
- Data set:
  - i170**b1**h0_t0.txt → band 1
  - i170**b2**h0_t0.txt → band 2
  - i170**b3**h0_t0.txt → band 3
  - i170**b4**h0_t0.txt → band 4
- Emission measurements from the emitting material in space
- Each file with different settings in wavelength



Assignment 3

-) *Read and understand data description*

a) Maximum value, minimum value, mean value, variance value

b) Profile line through the line with the maximum value

c) Histogram - line graph

d) Rescale values to [0 ... 255]

e) Histogram equalization

f) RGB-image – combination of the bands

Assignment 3

a) Max, min, mean, variance
b) Profile line
c) Histogram
d) Rescale
e) Histo. Equalization
f) RGB-image

band 2

all bands

Assignment 3

a) Max, min, mean, variance → input via PANDA
b) Profile line → coordinate axes
c) Histogram → line graph
d) Rescale → own transformation!
e) Histo. Equalization
f) RGB-image

No libraries allowed!

Assignment 3

a)	Max, min, mean, variance	[2 points]
b)	Profile line	[1 point]
c)	Histogram	[1 point]
d)	Rescale	[2 points]
e)	Histo. Equalization	[5 points]
f)	RGB-image	[4 points]

= 15 points

Assignment 3

Important Rules:

- Images as *.png or *.jpg
- Code incl. comments to make subtasks identifiable
- NO packages (*.zip, *.rar, …)

- Draw USEFUL scales and coordinate axes where necessary

- The points you will receive for this assignment depend upon:
  - Correctness of solution
  - Effectiveness of visual representation

- *No points for partial solutions! No points when not comply with the rules.*