

Mr. Simon Klüttermann

born on June 14, 1997
in Mönchengladbach

has passed the Bachelor Examination

in accordance with the
provisions of the syllabus for Physics


and has obtained the overall mark good (2,1)

Bachelor Thesis		Credits	Mark
Topic of Bachelor Thesis	Development of a Deep Learning Algorithm for Charge Reconstruction with the Transition Radiation Detector of the AMS-Experiment	12	good (2,5)
	Presentation of Bachelor Thesis	3	satisfactory (3,0)
Examiner	Schael		

The degree programme has been completed within the regular period of study.

Aachen, September 19, 2018

Chair of the
Examination Board


Univ.-Prof. Dr. rer. nat. Achim Stahl



Seal

Simon Klüttermann born on June 14, 1997 in Mönchengladbach
has achieved the following individual results:

	Credits	Mark
Experimental Physics	38	good (2,3)
Experimental Physics I (Mechanics and Relativity)	7	sufficient (3,7)
Experimental Physics II (Heat and Electromagnetism)	7	good (2,0)
Experimental Physics III (Optics and Quantum Physics)	7	good (1,7)
Experimental Physics IV (Atoms, Molecules, Nuclei) <i>The degree programme has been completed within the regular period of study. Upon request, the grade for this module can be excluded from the overall grade calculation. The module is graded with satisfactory (2,7).</i>	7	passed
Experimental Physics Va (Solid State Physics)	5	good (1,7)
Experimental Physics Vb (Particle Physics and Astrophysics)	5	satisfactory (2,7)
Theoretical Physics	37	satisfactory (2,7)
Introduction to Theoretical Physics	7	satisfactory (3,0)
Theoretical Physics I (Classical Mechanics)	5	sufficient (4,0)
Theoretical Physics II (Electrodynamics)	7	satisfactory (2,7)
Theoretical Physics III (Quantum Mechanics) <i>The degree programme has been completed within the regular period of study. Upon request, the grade for this module can be excluded from the overall grade calculation. The module is graded with sufficient (4,0).</i>	9	passed
Theoretical Physics IV (Statistical Physics)	9	good (2,0)
Mathematics	31	good (2,5)
Higher Mathematics I	8	satisfactory (2,7)
Higher Mathematics II	8	satisfactory (2,7)
Higher Mathematics III	8	good (2,3)
Higher Mathematics IV <i>The degree programme has been completed within the regular period of study. Upon request, the grade for this module can be excluded from the overall grade calculation. The module is graded with sufficient (3,7).</i>	7	passed
Practical Courses	27	good (2,5)
Data Processing	6	satisfactory (3,3)
Beginners Laboratory I	6	satisfactory (3,0)
Beginners Laboratory II <i>The degree programme has been completed within the regular period of study. Upon request, the grade for this module can be excluded from the overall grade calculation. The module is graded with satisfactory (3,3).</i>	6	passed
Advanced Laboratory	9	good (1,7)
Subsidiary Subject	10	very good (1,5)
Subsidiary Subject Computer Science	10	very good (1,5)

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has achieved the following individual results:

	Credits	Mark
Interconnections	18	good (1,8)
Interconnections in Experimental Physics	5	good (1,7)
Interconnections in Theoretical Physics	8	very good (1,3)
Scientific Discussion in Experimental Physics	5	satisfactory (3,0)
Specialization Subject	4	passed
Particle Physics	4	passed

The following additional examinations were provided during this degree programme:

Quantum Theory of Many Body Systems	4	passed
Relativistic Quantum Theory	4	passed
Theory of Special Relativity	6	passed

This final academic transcript has also been issued in a German version.
A credit point represents an estimated workload of approximately 30 hours.