
ARIES – First Annual Meeting

WP3 Parallel Meeting, May 22, 2018; Riga (LT)

Activities and Action Plan for WP 3.3

AGENDA

- Main Focus at WP 3.3
- Review of the first Year
- Preparation of milestones
- Preparation of deliverables

Main focus at WP 3.3

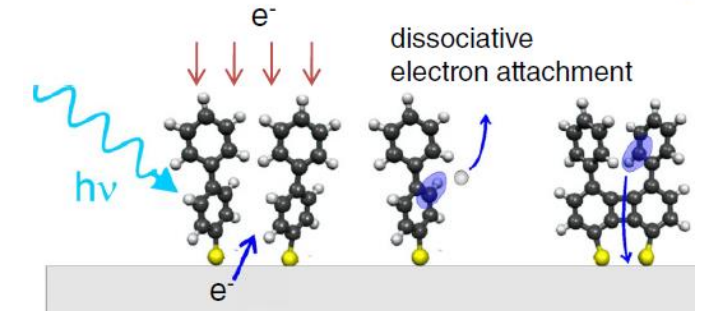
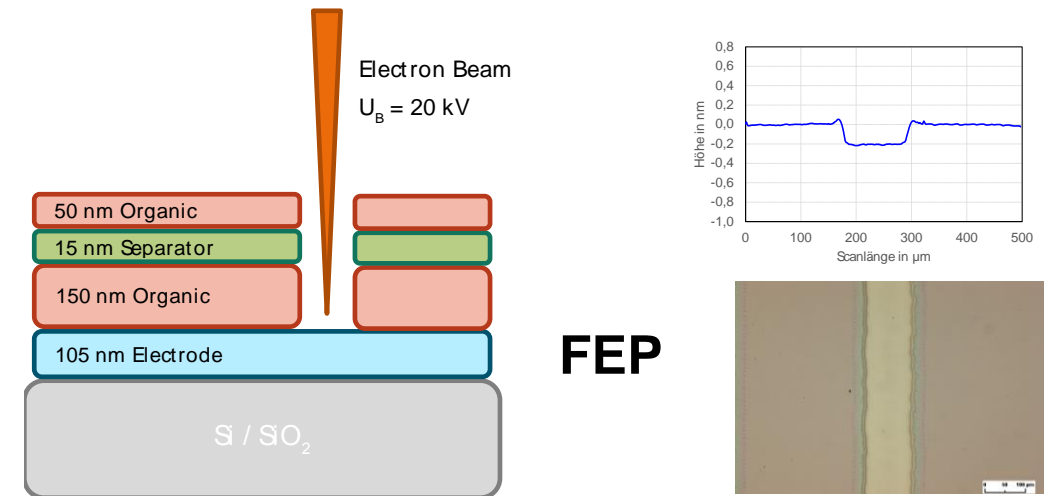
Low energy electron beam applications: new applications (FEP, INCT)

- (1) Identify unexplored fields of application
- (2) Studying the early stage fields of application in environmental area (water, flue gas, agricultural waste, biofuel)
- (3) Studying the influence of results from WP 3.2 (new technologies)
- (4) Studying new possibilities for well applied eb-applications based on results from WP 3.2 (new technologies)
- (5) Making new information available to users

Review of the first Year

(1) Identify unexplored fields of application

- Study about new thermal ebeam applications
 - Structuring of OLED pixel for display applications
- Feasibility investigations about irradiation of biological substrates (see detailed presentation)
- Crosslinking of Carbon Nanomembranes
- Medium energy x-ray sterilization
- Preparation of a Fraunhofer-internal Proof-of-Concept proposal concerning inactivation of biohazards



Review of the first Year

(2) Studying the early stage fields of application in environmental area (water, flue gas, agricultural waste, biofuel)

- Submission of a Proof-of-Principle proposal for flue gas treatment **FEP, INCT**
- Preparation of a Fraunhofer-internal proposal concerning microplastic treatment in wastewater **FEP**
- ?? Sludge treatment **INCT**

Review of the first Year

(3) Studying the influence of results from WP 3.2 (new technologies)

- What are the main decision factors for establishing an ebeam technology for a new application (price, footprint, maintenance, running cost, ...)

FEP, INCT

→ Task of year 2

Review of the first Year

(4) Studying new possibilities for well applied eb-applications based on results from WP 3.2 (new technologies)

- Searching if a toroidal source can change established technologies **FEP**
 - Under development → first results for seed treatment end of 2018
 - Preparation of a Fraunhofer-internal Proof-of-Concept proposal concerning flue gas treatment
 - Feasibility study → disinfection of fruits
- Influence of new Rhodotron generation to established technologies ?? **INCT**

Review of the first Year

(5) Making new information available to users

- 2 day Workshop AcEL in Sao Paulo together with IPEN, November 2017 (applications in the field of life-sciences) **FEP**
- Presentations at NICSTAR (Mumbai) March 2018 **INCT, FEP**
- Application of a CRP at IAEA (EB inactivation of RNA viruses in liquid suspensions) **FEP**
- Nominated for AtomExpo Award 2018 (Virus inactivation) **FEP**
- ThinkTank at XPOMET (Leipzig March 2018), irradiation for hygiene **FEP**
- IRaP 2018, Moscow (August)
- Build up a Webinar, 1Q2018 **iiA, INCT, FEP**

Preparation of milestones

MS14: New industrial applications of electron beams

Oct. 2018

■ Preparation of Report

- Template from Rob end of Aug.
- First draft (FEP) mid Sept.
- Legwork (INCT) end Sept.
- Final report to Rob mid Oct.

Preparation of deliverables

D3.1: Applications of electron beams in the environmental area Apr. 2019

■ ...