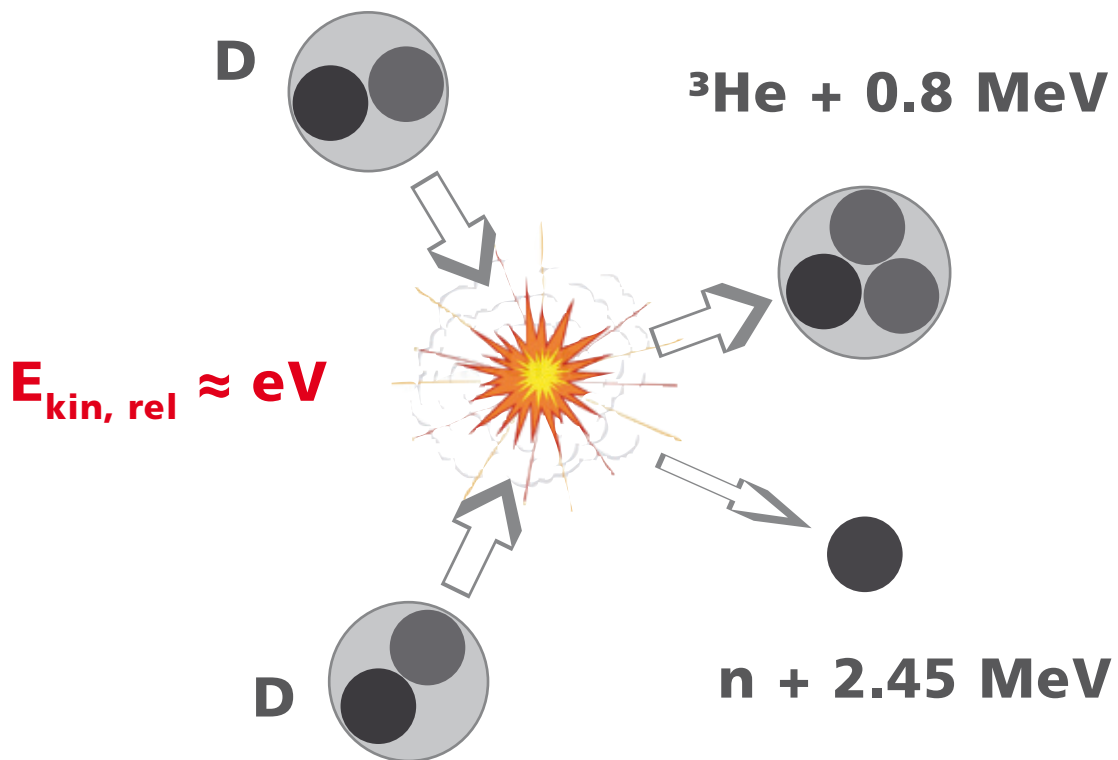


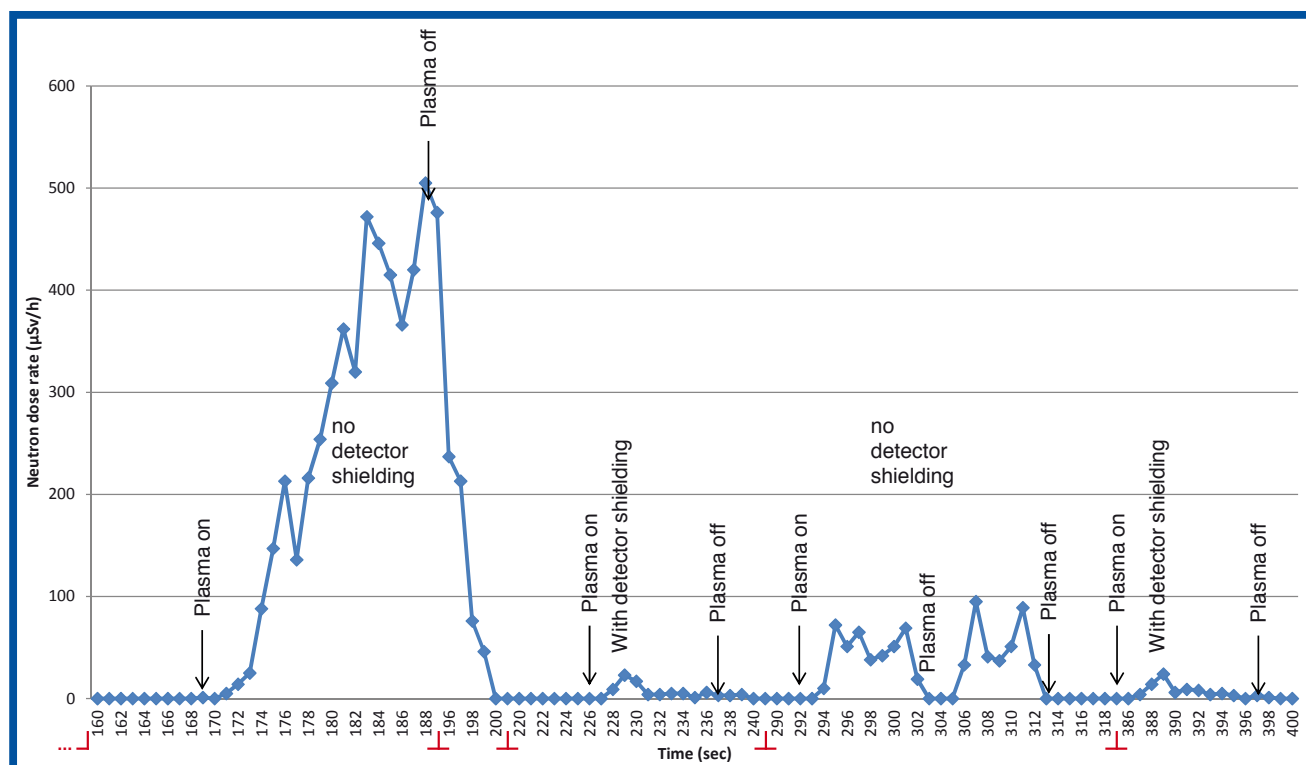
# SOLFIRE<sup>®</sup>

## D(D,n)<sup>3</sup>He fusion reaction



Challenges are destined...  
...to be mastered!

## Detection of neutron radiation



## Experimental set-up

### Base technology:

water vapour operated plasma jet discharge

**Cathode material:** Palladium

**Anode:** Copper with a central hole

**Water vapour generation:** heating slab with tangential vapour inlet into the discharge volume, swirl stabilized

**Water vapour:** normal water H<sub>2</sub>O, heavy water D<sub>2</sub>O, mixtures of these two types

**Electrical current:** about 5 - 10 A

**Voltage:** about 100 - 150 V

**Plasma burning time:** several seconds

**Neutron detector:** Berthold Technologies LB 6411 with a read out electronic LB 123

**Distance plasmajet - neutron detector:**

about 1 m until center of the neutron detector sphere

**Background dose rate in the lab:** about 0,020µSv/h without plasma jet operation

**Shielding of the experiment:** lead stones (inner side), about 10 cm broad water canisters (in the middle), boron water made of boron acid (5% H<sub>3</sub>BO<sub>3</sub>) in about 10 cm broad canisters (outside)

**Detector shielding:**

10 cm broad water canisters, then 10 cm boron water between the plasma jet and the neutron detector

## Project description

**Our now how realizes - „the“ technology for the controlled utilization of fusion energy. Light starting substances able to undergo fusion processes are fused by supplying electrical energy.**

### State of the art

The experimental procedure is carried out by means of an especially developed prototype on laboratory scale.

The neutron signal is reproducible and a doubtless proof of a neutron generating nuclear process in the described experiment.

A generation of the detector signal by perturbing influences of electronic origin can absolutely be ruled out.

The crucial physical parameters for the realization of the fusion effect are known. By appropriate changing of these parameters the fusion effect can be amplified up to the generation of an explosion.

### Result

- Generation of excess heat
- Particle radiation (neutrons)
- High energetic radiation (gamma radiation)

### Fields of application

- Generally everywhere there, where conventional fuels are applied
- Operation of thermal energy devices and plants for electrical energy production
- Power units for combustion engines, turbines and burners

### Intend – Projects

- Construction and development of todays state of the art of the technology into the state of the end use
- Sale of the know-how, distribution of licenses, cooperation with enterprises / institutes
- International market implementation and commercialization

### Patent system

- in 2006...      patent protection requested
- starting from 2010...      the first national grant of patent
- since 2014...      the granted patent protection extends over all important and decisive industry and economic regions

# SOLFIRE<sup>®</sup>

**Innovative – Revolutionary – Meaningful**

**„Low Energy Nuclear Reaction“**

**An absolute masterstroke for a technological  
know-how, which will establish itself  
in the field of energy production  
as the measure of all things.**