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Storage of Hydrogen in Capillary Arrays - Progress

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Dear Sirs,

Herewith I would like to inform you about the recent, promising results we achieved in our project "Storage of hydrogen in capillary arrays".

In the last week we got the first quartz glass capillaries from a German company. In first tests they showed a high pressure resistance and did not break at pressures up to 500 atm.

After these tests we also carried out storage tests mainly in single capillaries. We determined the possibility of hydrogen storage of about *15% H_2* at a comparative low pressure of *only* 300 atm. In these tests the high potential of such a storage system can be seen.

On the basis of these excellent results we would like to go ahead in this project. Main steps are increasing the hydrogen storage pressure while decreasing the thickness of the capillary walls to the minimum value. This will lead to a loss of weight of a future storage container and to higher gravimetrical storage capacities.

In general it turned out once again that this concept of hydrogen storage is of a trendsetting nature which will be very useful in broad fields of energy related applications. At this time we are also preparing one or two prototypes for demonstrating the potential of this storage system.

Best regards,

Dr. K. Holtappels
Working Group "Safety Related Properties of Gases"
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