

Quantenkryptographie

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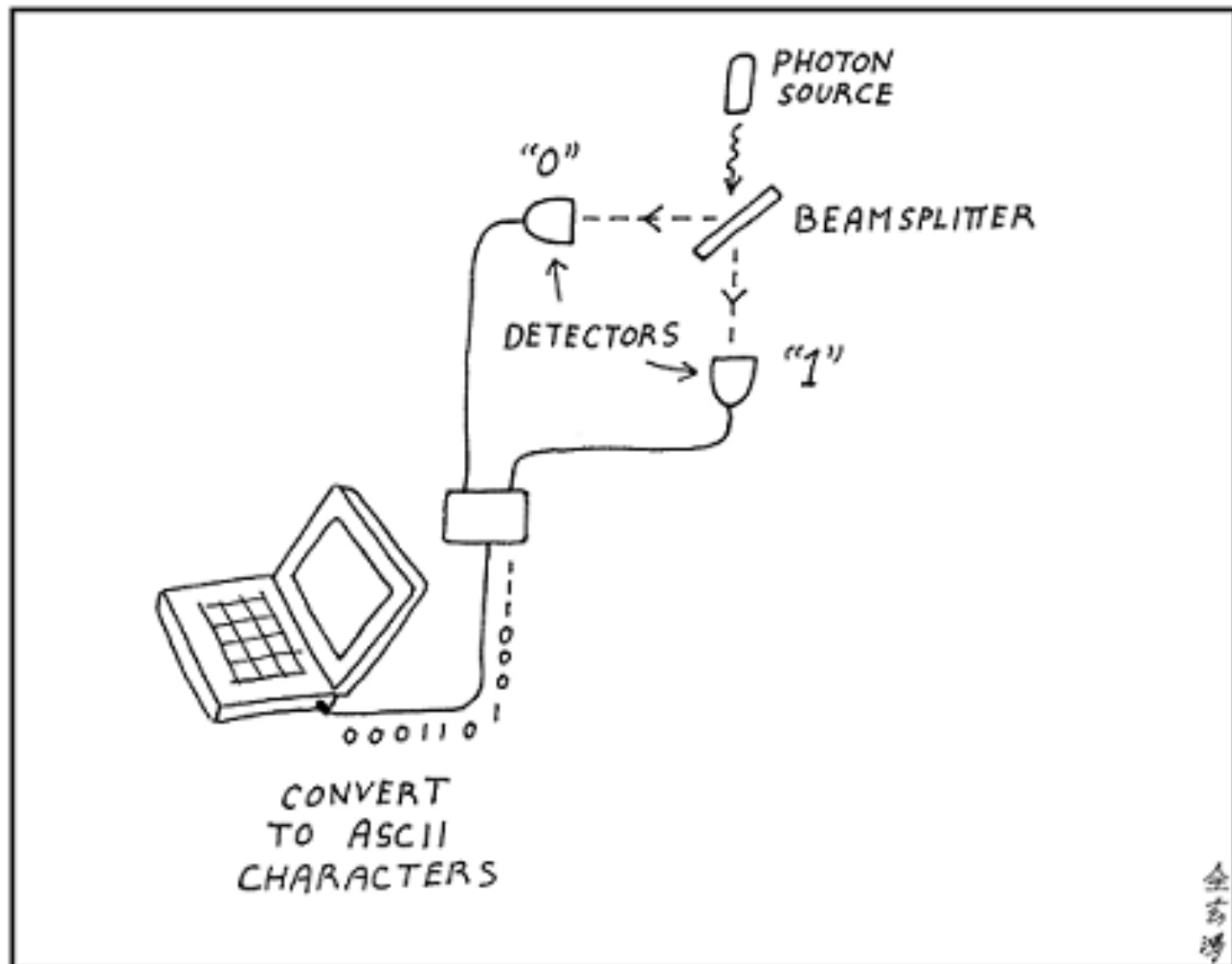
ETH Zurich

- Quanten-Computer
- Quanten-Kryptographie
- Quanten-Information
- Quanten-Zufallsgeneratoren
- Quanten-Teleportation
- Quanten-Detektion
- ...
- ...
- Quanten-Heilung
- Quantum of Solace

WHAT IS
YOUR NAME?

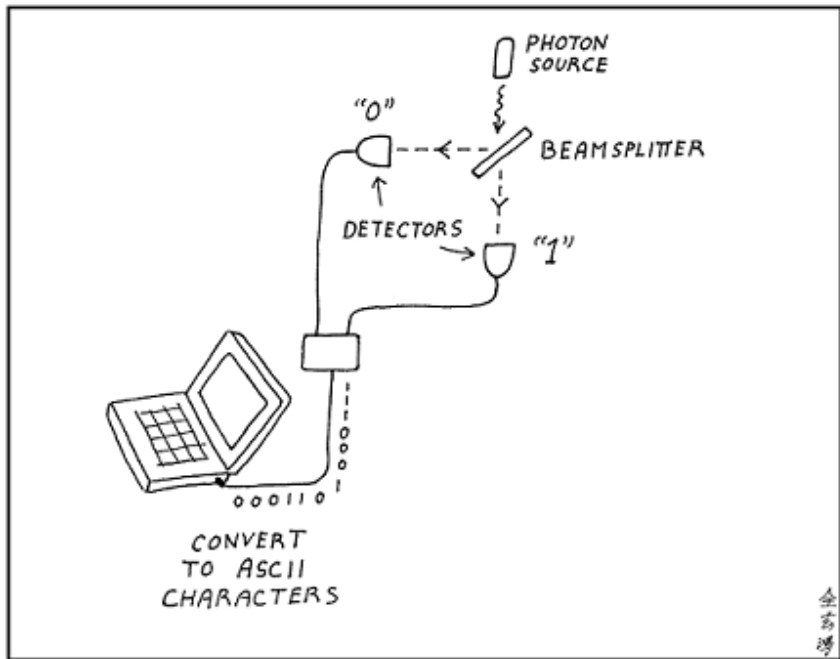
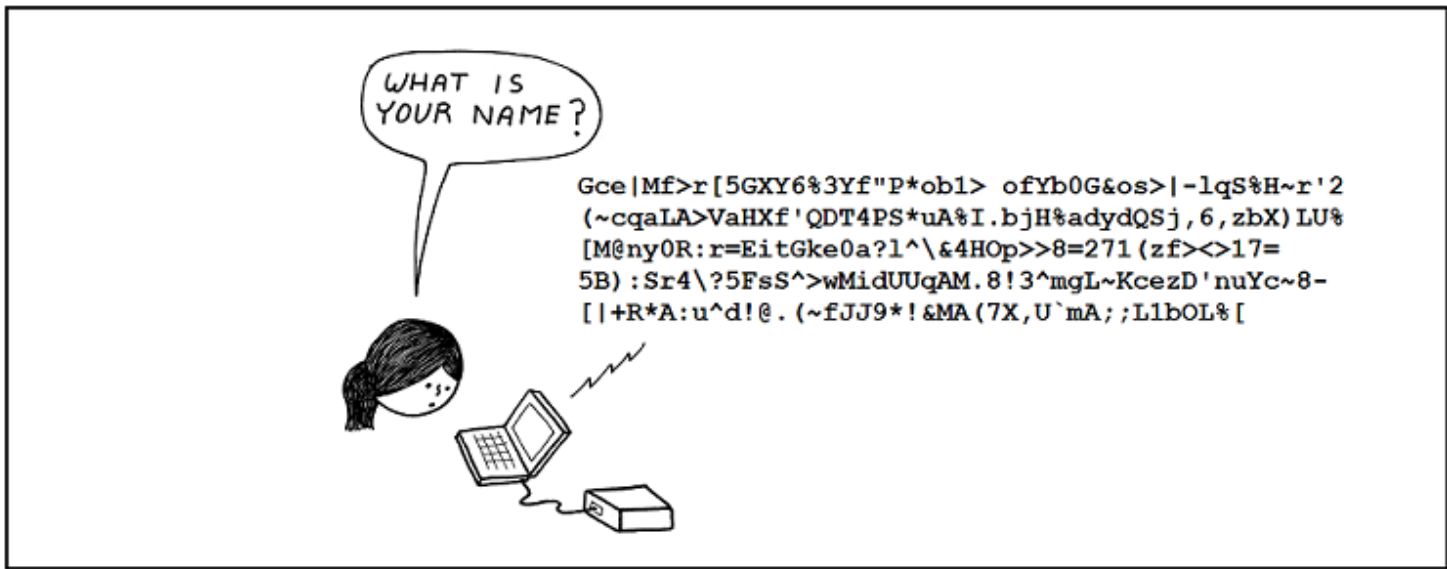
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5B):Sr4\?5FsS^>wMidUUqAM.8!3^mgL~KcezD'nuYc~8-
[|+R*A:u^d!@.(~fJJ9*!&MA(7X,U`mA;;L1bOL%[





QUANTUM OUIJA BOARD

the best application of
quantum physics so far (?)



QUANTUM OUIJA BOARD

the best application of quantum physics so far (?)

Quanten-Zufallsgeneratoren



TOUR OF ACCOUNTING

OVER HERE
WE HAVE OUR
RANDOM NUMBER
GENERATOR.



www.dilbert.com scottadams@aol.com

NINE NINE
NINE NINE
NINE NINE



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ARE
YOU
SURE
THAT'S
RANDOM?

THAT'S THE
PROBLEM
WITH RAN-
DOMNESS:
YOU CAN
NEVER BE
SURE.



Wann ist eine Zahl zufällig?

- 1234567890123456789012345678901234567
8901234567890123456789012345678901234
5678901234567890123456789...
- 1415926535897932384626433832795028841
9716939937510582097494459230781640628
6208998628034825342117068...
- 1492891821176330145940198127964601652
6726623193154459652879981335270643243
0186065122864951296778582...

Wozu sind Zufallszahlen nützlich?

“One-Time-Pad”-Verschlüsselung



Gilbert Vernam
1890 - 1960



Joseph Mauborgne
1881 - 1971

Kryptographie



Hicks-Cipher



Enigma



AES

Reissue (T1388)

From: NEW YORK

To: MOSCOW

No: 842

3 June 1943

To VIKTOR[i].

According to "MIRAGE's [MIRAZh]"[i1] information the Embassy of the COUNTRY [STRANA][i11] in Brazil advises the "BANK"[i4]:

The Brazilian Ambassador in Switzerland learned from two highly placed persons in the Swiss army that German troops [2 groups unrecovered] area of Schwarzwald supposedly with a view toward the invasion of Switzerland for

[5 groups unrecovered]

No.461 .

MAKSIM[v]

Comments:

[i] VIKTOR: Lt. Gen. P.M. FITIN

[i1] MIRAGE: Unidentified

[i11] COUNTRY: U.S.A.

[i4] BANK: U.S. State Department.

[v] MAKSIM: Vasilij ZUBILIN.

highly placed persons in the Swiss army that German troops [2 groups unrecovered] area of Schwarzwald supposedly with a view toward the invasion of Switzerland

[5 groups unrecovered]

Shannons Theorem

Jedes (annähernd) perfekt sichere Verfahren um eine n -Bit-Meldung zu verschlüsseln verbraucht einen Schlüssel-String der Länge mindestens n .

Shannons Theorem ist nur in einer rein klassischen Welt gültig

Quanten-Schlüsselaustausch



Charles H. Bennett

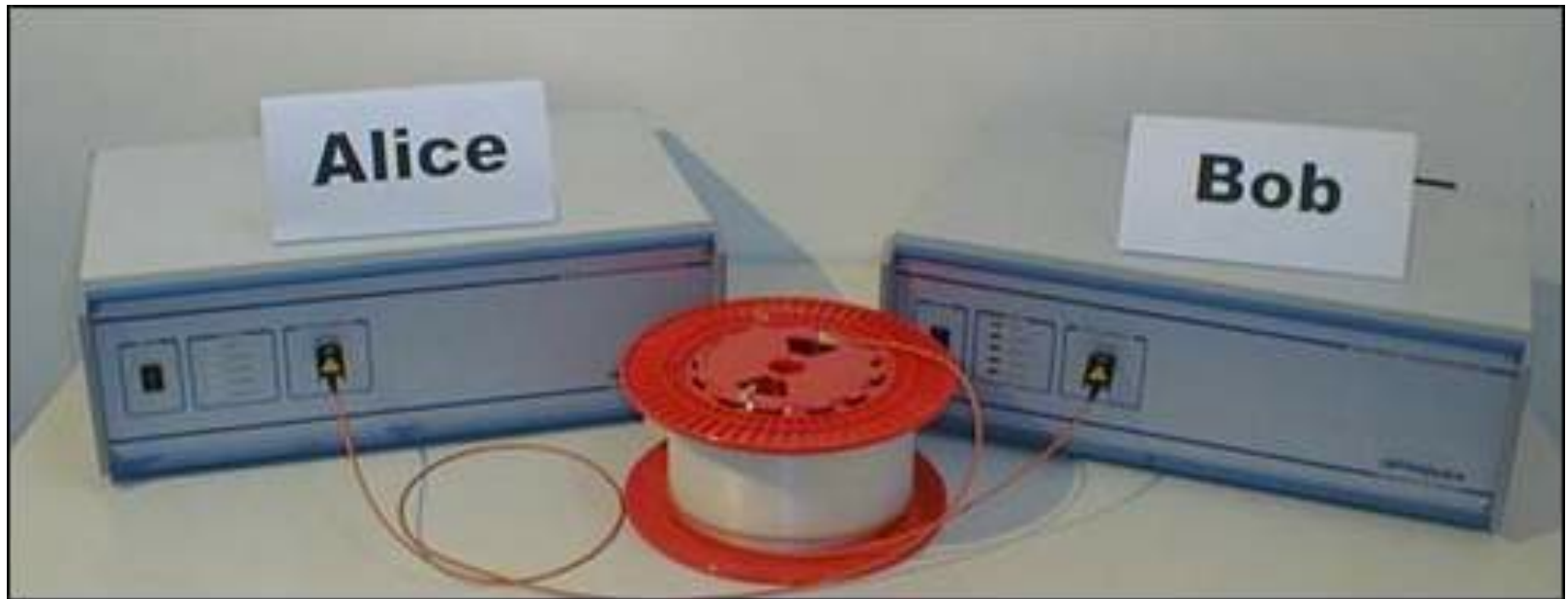
[Photo: ETH Zurich]



Gilles Brassard

[Photo: ETH Zurich]

Quanten-Schlüsselaustausch



Vielen Dank für Ihr Interesse an der
Welt der Quanten