n	0	1	2	3	4	5	6	7	8	9	10	11
p	1	8	48	288	1728	9896	51808	220111	480467	166276	2457	32

$$\sigma = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 \\ 3 & 4 & 5 & 2 & 1 \end{pmatrix} = (1 \;\; 3 \;\; 5)(2 \;\; 4) = (1 \;\; 5)(1 \;\; 3)(2 \;\; 4).$$

So, there are many other ways of obtaining a composition of transpositions

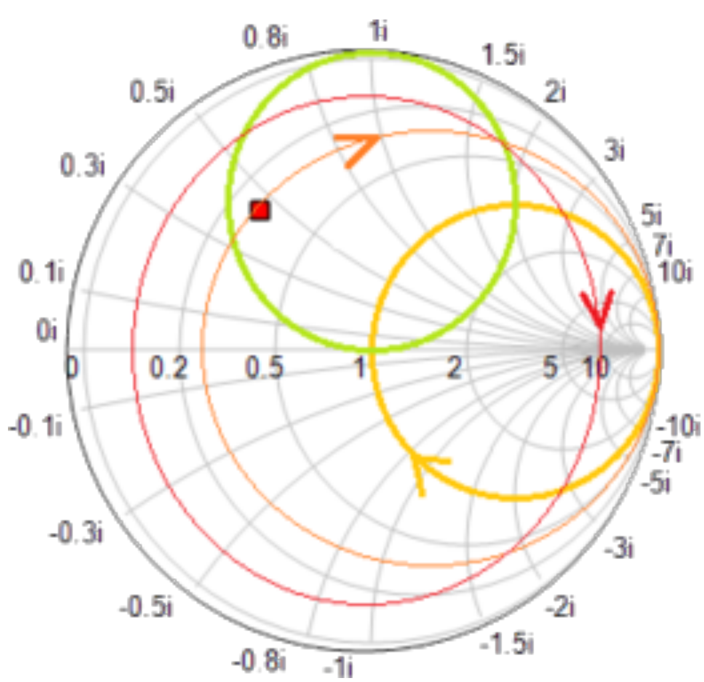
A function $g(n)$ is an asymptotic approximation to $f(n)$ if $f(n)/g(n) \to 1$ as $n \to \infty$

$$F(x) = \sum_{n=0}^{\infty} \frac{f_n}{n!} x^n$$

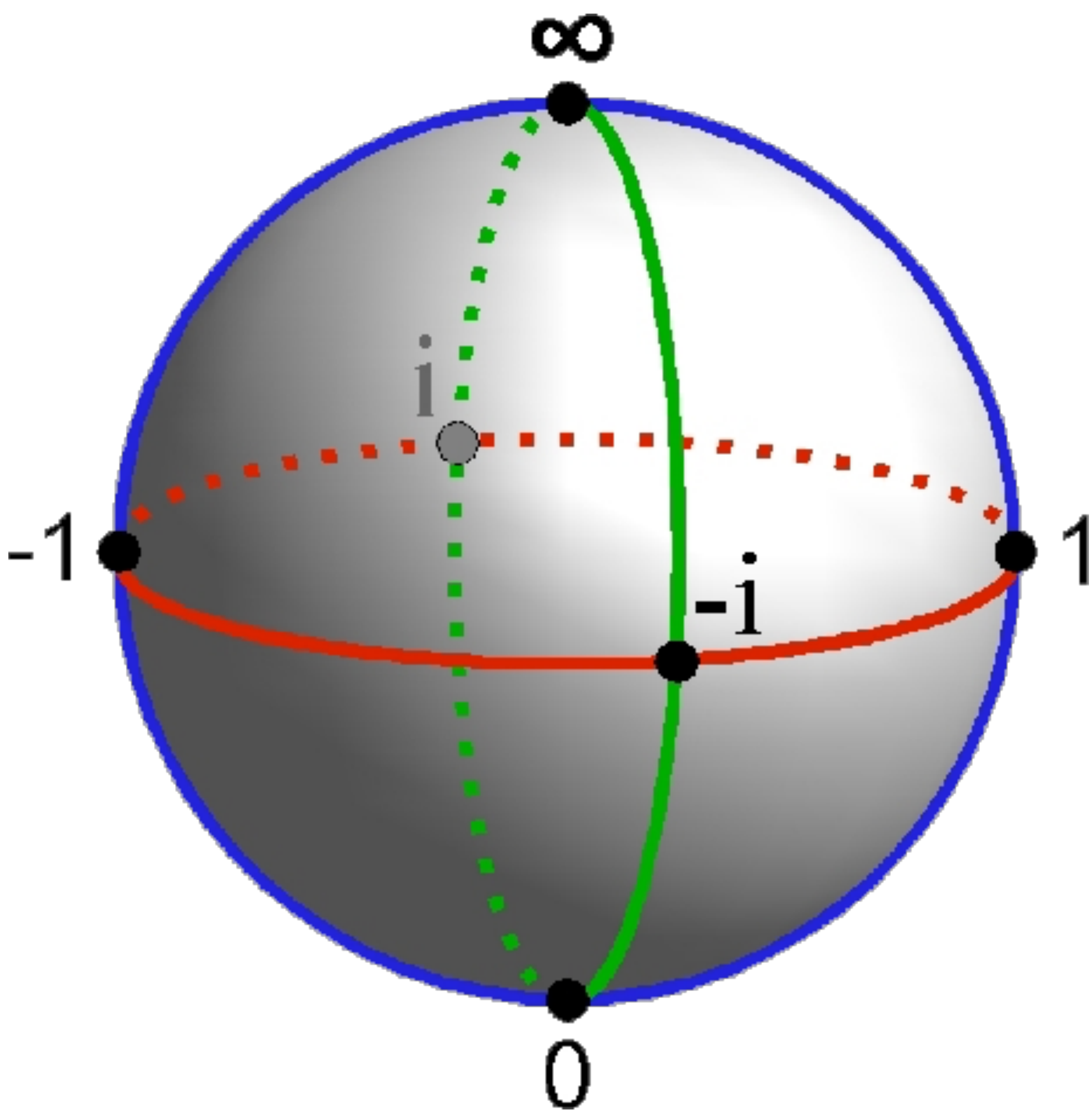
$$1 + F(x) - [F(x)]^2 + [F(x)]^3 + \cdots = \frac{1}{1 - F(x)}$$

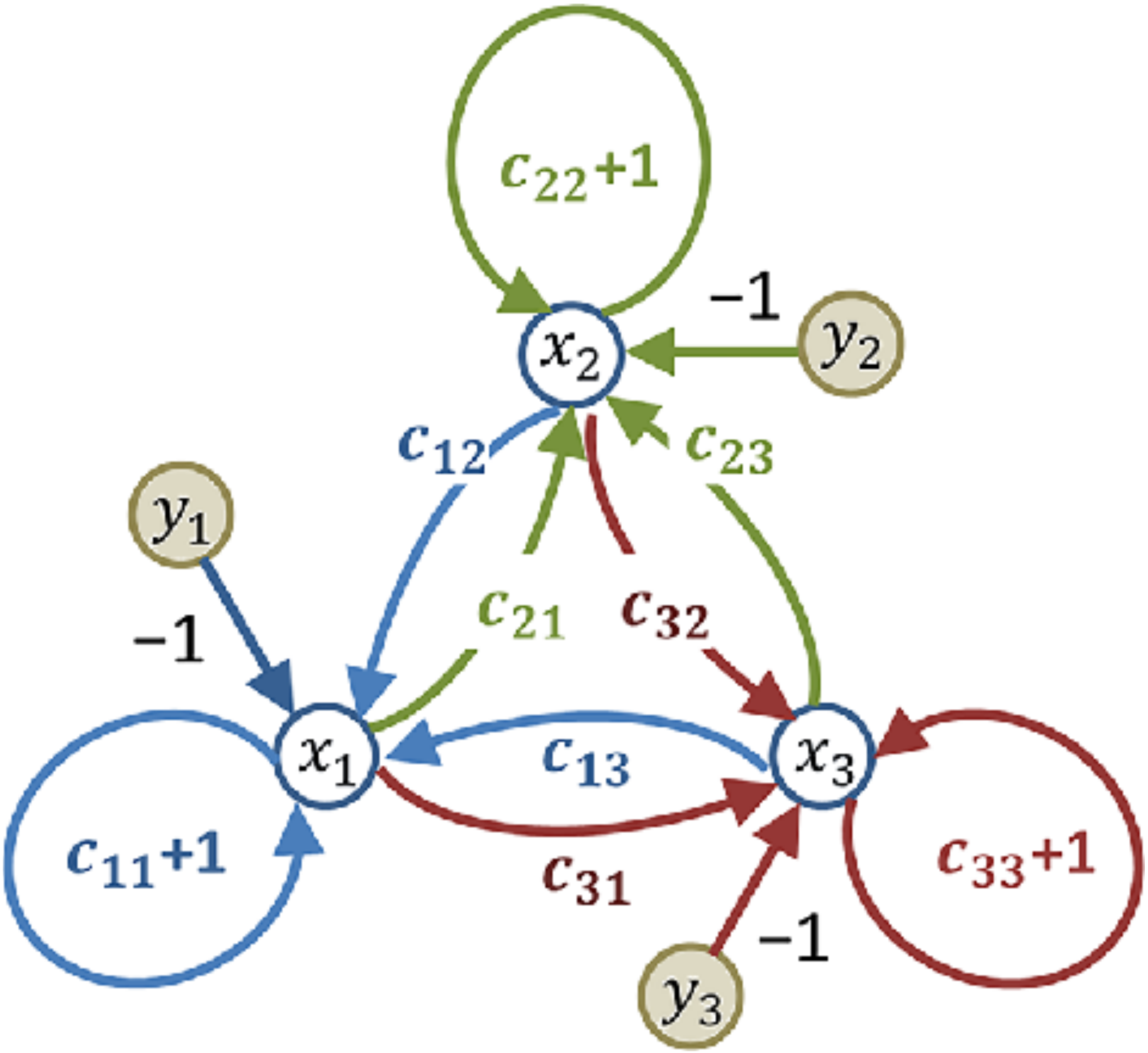
$$P(x) \quad \frac{1 - \sqrt{1 - 4x}}{2}$$

$$\mathcal{P} = \{\bullet\} \times \mathrm{Seq}(\mathcal{P})$$

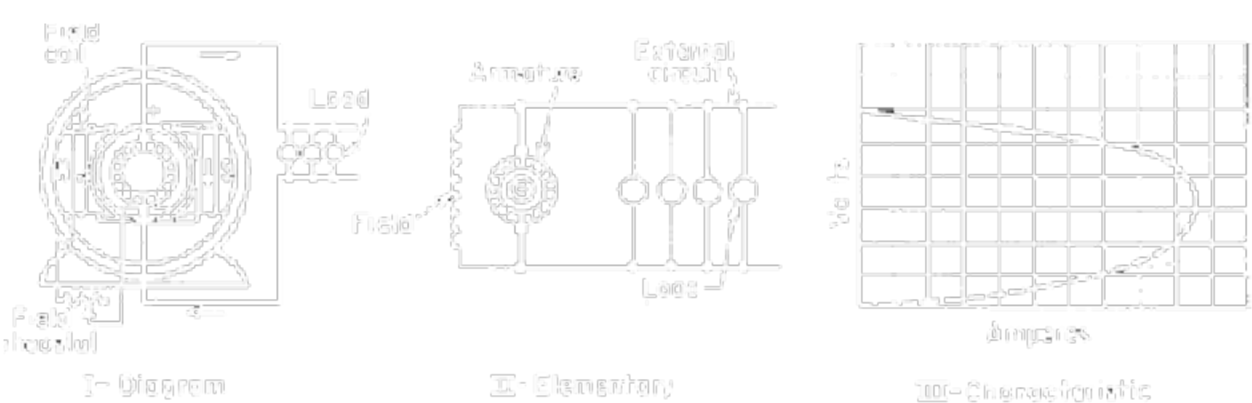


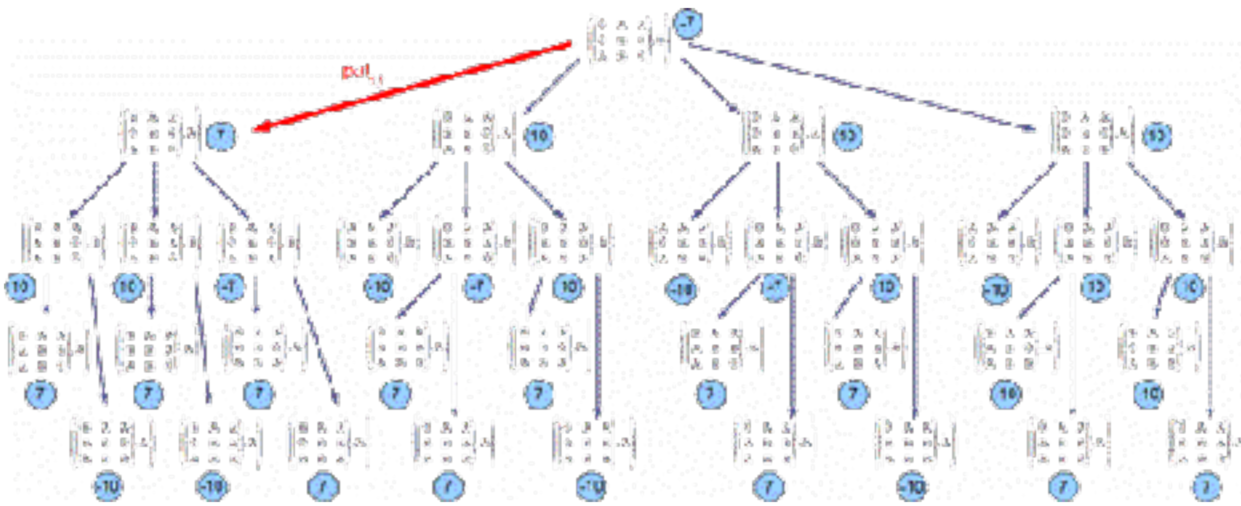
n	f	p
0	1	1
1	9	6
2	54	27
3	32	12
	1	0
4	18	53
	47	4
5	99	22
	92	56





$c_{22}+1$
-1
x_2
y_2
c_{12}
c_{23}
y_1
c_{21}
c_{32}
-1
x_1
c_{13}
x_3
$c_{11}+1$
c_{31}
$c_{33}+1$
-1
y_3





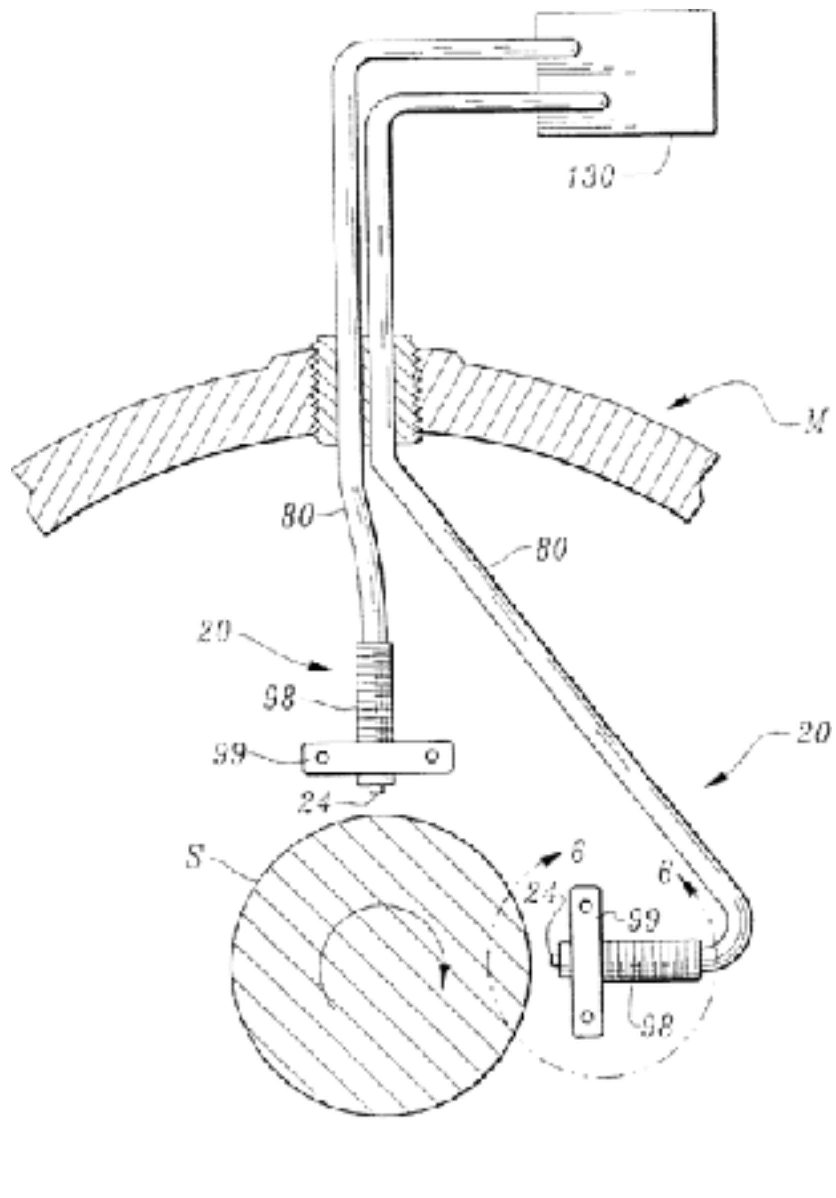
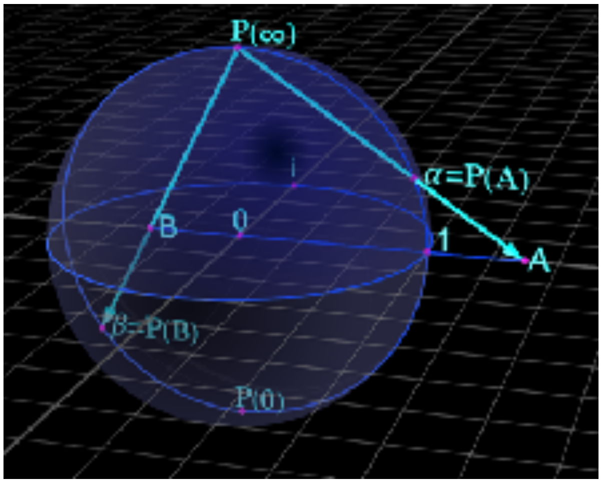
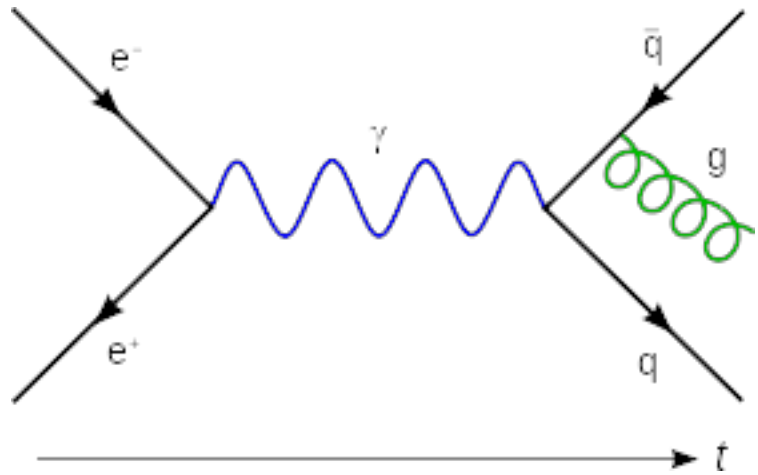
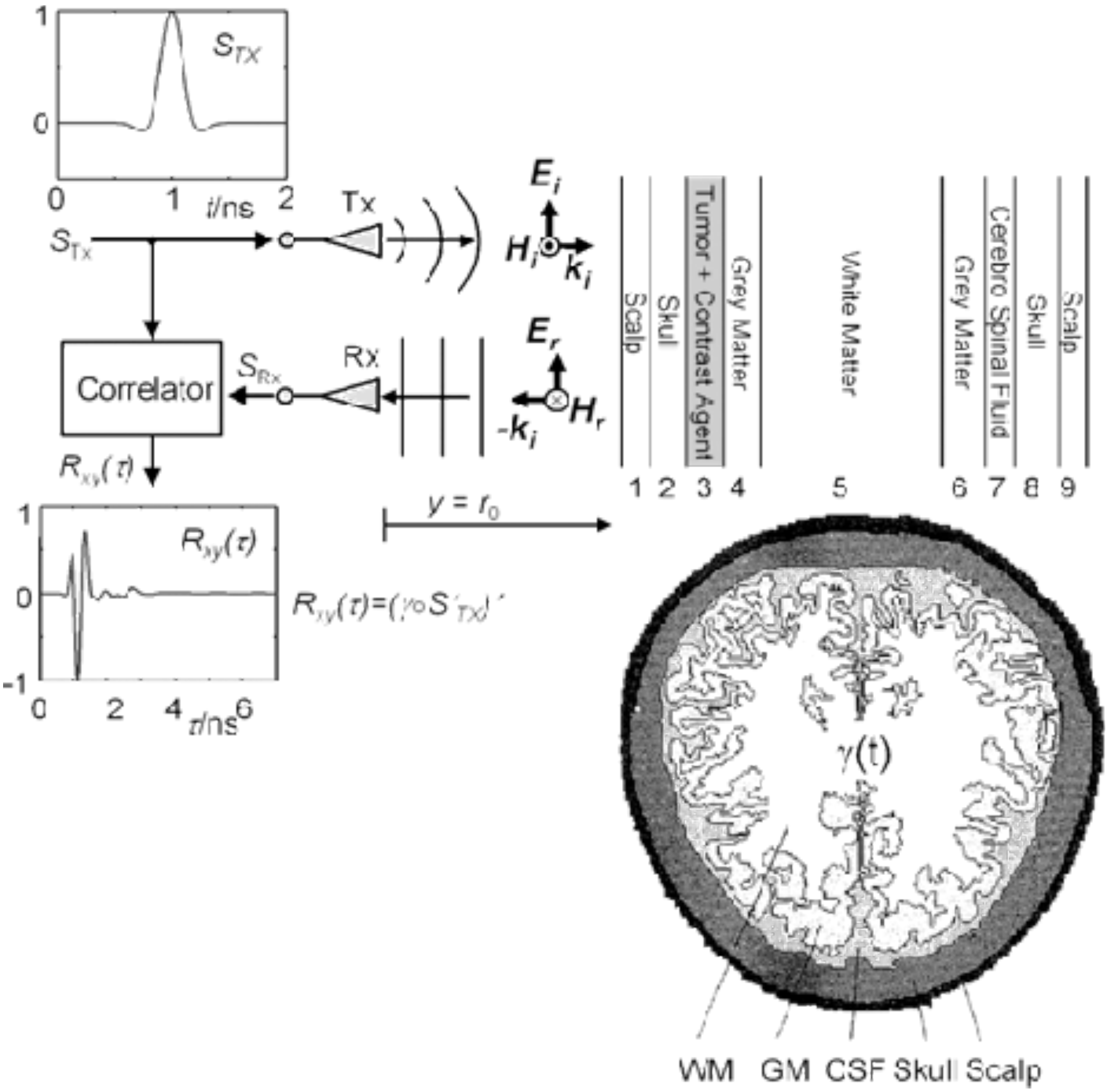
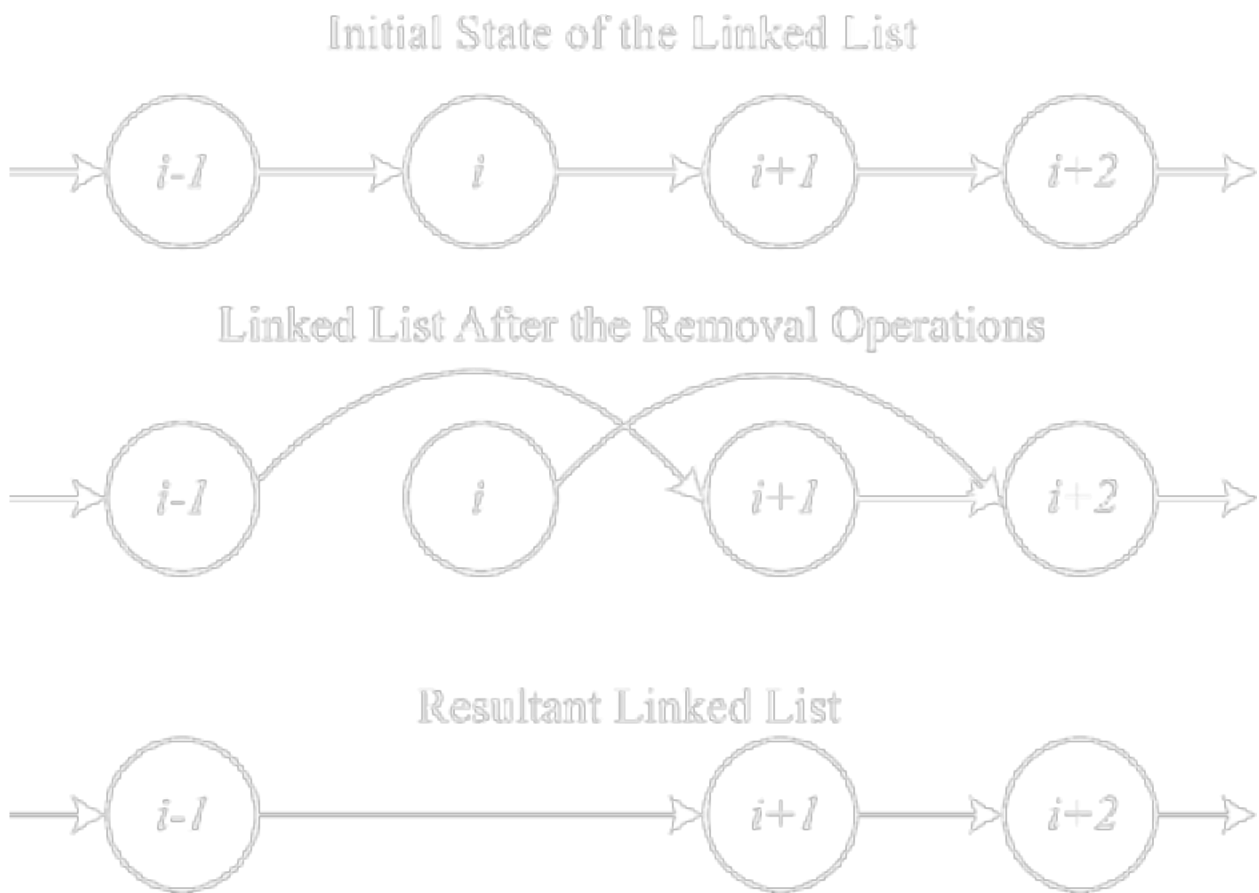


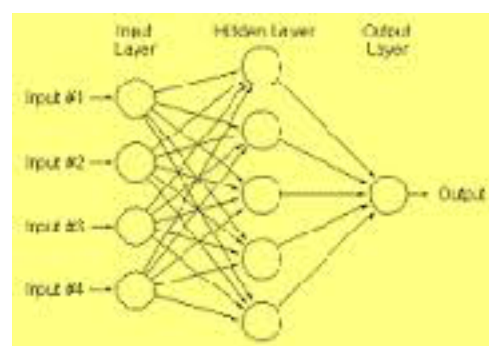
Fig. 5


P(∞)
i
α=P(A)
B
0
1
A
β=P(B)
P(0)


e⁻
e⁺
γ
q̄
g
q
t


1
0
0
1
2
t/ns
S_TX
S_Tx
Tx
E_i
H_i
k_i
Correlator
S_Rx
Rx
E_r
-k_i
H_r
R_xy(τ)
1
0
-1
0
2
4
τ/ns
6
R_xy(τ)
Scalp
Skull
Tumor + Contrast Agent
Grey Matter
White Matter
Grey Matter
Cerebro Spinal Fluid
Skull
Scalp
1
2
3
4
5
6
7
8
9
y = r_0
γ(t)
WM
GM
CSF
Skull
Scalp


Initial State of the Linked List
i-1
i
i+1
i+2
Linked List After the Removal Operations
i-1
i
i+1
i+2
Resultant Linked List
i-1
i+1
i+2


Input Layer
Hidden Layer
Output Layer
Input #1
Input #2
Input #3
Input #4
Output

Given two statistical possibilities, $\mathcal{F}$ and $\mathcal{G}$, with generating functions F(x) and G(x) respectively, the ***disjoint union of the two possibilities*** ($\mathcal{F} \cup \mathcal{G}$) has generating function F(x) + G(x).

$$C_n \quad \frac{1}{n+1}\binom{2n}{n} \quad \frac{(2n)!}{(n+1)!\,n!} \quad \prod_{k=2}^{n} \frac{n+k}{k} \qquad \text{for } n \geq 0.$$

The first Catalan numbers for n = 0, 1, 2, 3, … are

1, 1, 2, 5, 14, 42, 132, 429, 1430, 4862, 16796, 58.786K, 208.012K, 742.900K

As **'C'**, the Catalan numbers have an integral representation

$$C_n = \int_0^4 x^n \rho(x)\,dx$$

Asymptotically, the Catalan numbers grow as

$$C_n \sim \frac{4^n}{n^{3/2}\sqrt{\pi}}$$

Note that

$$\ln(n!) = n\ln(n) - n + O(\ln(n))$$

Where O represents *Observations*

And Stirling's approximation has the property that the ratio

$$\frac{n!}{\sqrt{2\pi n}\left(\frac{n}{e}\right)^n}$$

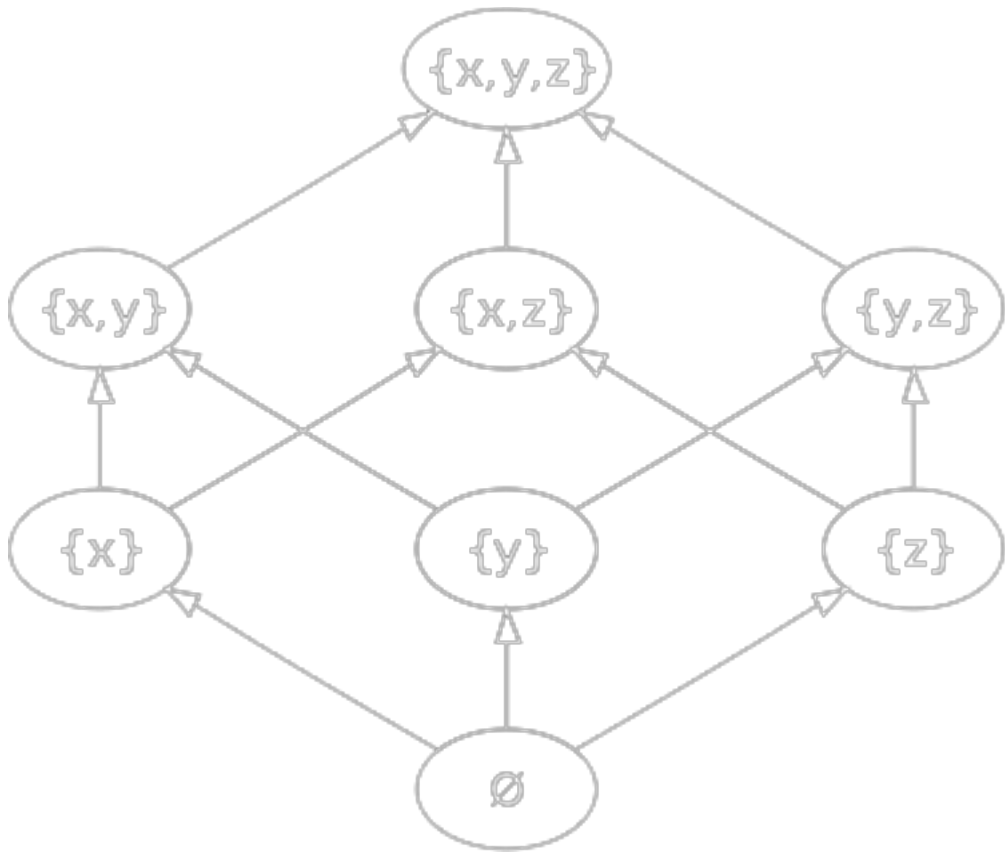
approaches 1 as n grows to infinity, *therefore a single solution can be **selected from possibilities***

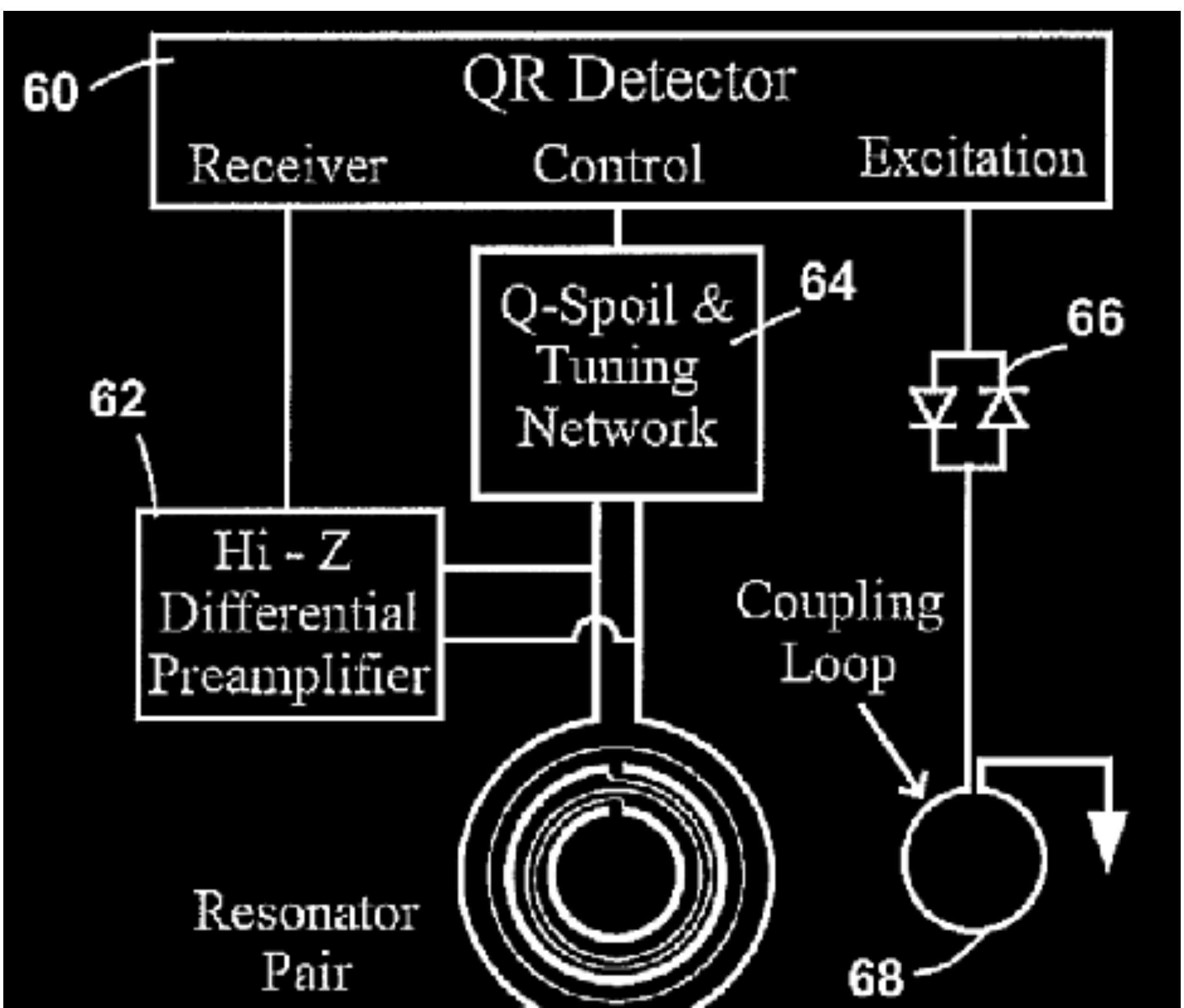
Applying Laplace's transform we have

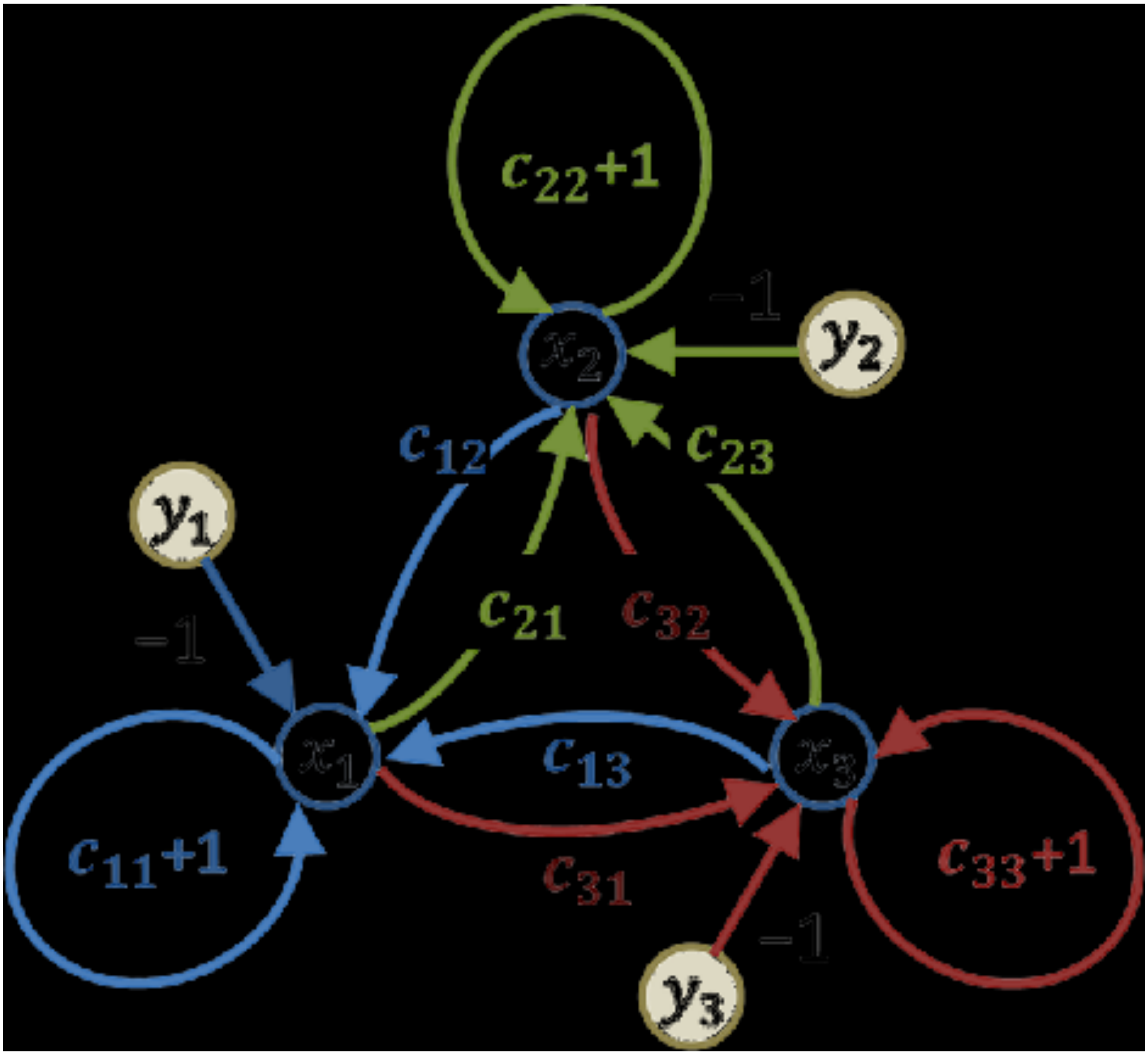
$$\int_0^\infty e^{n(\ln y - y)}dy \sim \sqrt{\frac{2\pi}{n}}e^{-n}$$

which recovers the Stirling's formula, allowing observation of all energies in a visual circular dial, with each representing a possible outcome

$$\lim_{n\to+\infty} \frac{\int_a^b e^{nf(x)}\,dx}{e^{nf(x_0)}\sqrt{\frac{2\pi}{n(-f''(x_0))}}} = 1$$


{x,y,z}
{x,y}
{x,z}
{y,z}
{x}
{y}
{z}
ø


60
QR Detector
Receiver
Control
Excitation
64
Q-Spoil &
Tuning
Network
66
62
Hi - Z
Differential
Preamplifier
Coupling
Loop
Resonator
Pair
68


$c_{22}+1$
-1
y_2
x_2
c_{12}
c_{23}
y_1
c_{21}
c_{32}
-1
x_1
c_{13}
x_3
$c_{11}+1$
c_{31}
$c_{33}+1$
-1
y_3