

Re: Tests for significance applied to signals

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Bala Vamsi Tatavarthy wrote:

>>
>> *If you are willing to say that the results for the 5000 periods*
>> *are independent and identically distributed then put the data into*
>> *a 2 x 2 table and do the usual chi-square test of independence:*
>> $n(n_{11}*n_{00}-n_{10}*n_{01})^2/((n_{11}+n_{10})(n_{01}+n_{00})(n_{11}+n_{01})(n_{10}+n_{00}))$.
>>
>
> *I am sorry but I lost you here. What would be n11, n00, n10 and n01.*
> *Lets say I have M time samples in which events occur m1 times in*
first
> *signal and m2 times in the second signal, and m12 times*
simulatneously
> *in both signals. How do I show non-independence here using*
chi-square
> *test. (I am a first-timer here).*
> *The generation of events for a signal at all time instants, are due*
to
> *i.i.d*
>
> *Thanx*
> *Vamsi*

n11,n10,n01,n00 are the joint counts inside the 2 x 2 table.

n = M

n11 = m12

n10 = m1 - m12

n01 = m2 - m12

n00 = M - m1 - m2 + m12

m12 = n11

m1 = n11 + n10

m2 = n11 + n01

M = n = n11 + n10 + n01 + n00

chisquare = $M*(M*m_{12}-m_1*m_2)^2/(m_1*(M-m_1)*m_2*(M-m_2))$