

Re: cramer-von-mises

Source: <http://sci.tech-archive.net/Archive/sci.stat.math/2007-02/msg00235.html>

- *From:* David Winsemius <doe_snot@xxxxxxxxxxxx>
 - *Date:* Thu, 15 Feb 2007 20:42:37 -0600
-

jeremie <njphoto21@xxxxxxxx> wrote in
[news:45d486a3\\$0\\$19051\\$426a74cc@xxxxxxxxxxxx](mailto:news:45d486a3$0$19051$426a74cc@xxxxxxxxxxxx):

David Winsemius a écrit :

jeremie <njphoto21@xxxxxxxx> wrote in
[news:45d377f1\\$0\\$377\\$426a74cc@xxxxxxxxxxxx](mailto:news:45d377f1$0$377$426a74cc@xxxxxxxxxxxx):

Hi folks,

I have found contradictory information on the Cramer Von Mises statistical test regarding the critical values to use:

1.

http://www.weibull.com/RelGrowthWeb/Critical_Values_for_Cramer_von_Mises_Test.htm 2.

<http://rkb.home.cern.ch/rkb/AN16pp/node45.html>

In 1, for a sample of size 30 the critical value is 0.33

In 2, for a sample of the same size, the critical value for W^2 is

$0.743/30=0.0247667$.

Do you have any hints on the one I should believe?

Could it be that you are comparing (1) which is a specific application of the CVM to the case of one-sample data versus an assumed Poisson distribution to (2) which is a general result for any distribution? You should know the assumptions underlying the actual test statistic and assumed distribution that you are using. There is not just one CVM test, but many versions, just as there is not just one "chi-square test".

Here are some examples you may find entertaining:

Re: cramer-von-mises

<http://stinet.dtic.mil/cgi-bin/GetTRDoc?AD=ADA262554&Location=U2&doc=GetTRDoc.pdf>

<http://www.hindawi.com/GetPDF.aspx?doi=10.1155/BSB/2006/85769>

Thank you david,

I am trying to test, kind of automatically, if sets of data I have can be fitted with some known laws such as Pareto and exponential.

For the moment, I am using (2) but it seems that the critical values are too low which makes the test be too strict (almost all my tests fail but I can visually see that my curves are not that far from an exponential), I would need something more "flexible". That is why I was wondering if the critical values I am using are the good ones. Do you have advices for me?

You will need to hope that a real probabilist chimes in. I doubt that I will have the answers for you. In your effort to generate more interest, it might help if you described your methods, data situation (types of data, numbers of data points, etc) and goals in more detail. I for one, am not even sure I know what you mean when you say your "tests fail." Fail to give the the expected answer, or fail to reject the hypothesis of similarity? If the critical values are low, then it would seem that you would be getting a lot of rejections, which many people would not call "failing" but rather "working".

—

David Winsemius

.