

TO: *Nancy Gardner*  
Head, Intellectual Property and Technology Transfer  
Services, Canadian Space Agency  
6767, Route de l'Aéroport, Longueuil (St-Hubert), QC, Canada, J3Y 8Y9

May 22, 2012

Dear Ms. Gardner,

**Fabricated and Falsified data in the Canadian Space Agency paper:**

**“Recent Measurement of Experiment Sensitivity to G-jitter...”**

**Journal of Japan Microgravity Applications, Vol.16, NO.4, 1999 (234-244).**

This Canadian Space Agency (CSA) paper is related to Queen’s University Experiments in Liquid Diffusion (QUELD) and contains fabricated and falsified data. The Canadian Space Agency should show leadership and correct the records for the scientific community.

The paper discusses the importance of using the Microgravity Isolation Mount (MIM) developed by the Canadian Space Agency. The authors argue that in order to precisely measure diffusion coefficients in liquid metals, MIM should be used to isolate the experimental facilities from the disturbing effects of g- jitter.

The authors use the data in Fig.4 of the paper to justify the usefulness of MIM and claim that diffusion coefficients for silver in lead measured under isolation conditions show a linear relationship with temperature. The authors furthermore claim that that the linear relationship is obtained only when MIM is used.

This conclusion is seriously misleading the scientific community. Contrary to what the authors claim, the astronauts on board MIR did not conduct these diffusion experiments under isolation conditions. The flight documents show that **samples # 61, 62, 63, 64, and 65** were in fact all processed under non-isolated (“Latched”) conditions. There is substantial evidence in the flight documents pointing to the fact that the crew members on board MIR did conduct these particular experiments under “Latched” conditions. This brings into question the overall reliability of the results claimed in the Journal of Japan Microgravity Applications.

As stated in the Final Report that was submitted to CSA in 2000 (attached), many space experiments conducted under isolation conditions on MIR in fact failed (p.5). Silver- lead **samples # 7, 9, 10** processed under isolation conditions on MIR are all listed as “unsatisfactory” by the principal investigator (Table V-I, p. 80).

It should also be noted that there are serious problems with the data in Fig. 3 of the CSA paper. Almost all the data in Fig.3 are either fabricated or falsified in order to justify the usefulness of MIM.

The same falsified results and erroneous conclusions are repetitively presented in reports and in more than sixteen journal articles and conference papers.

Please forward a copy of this complaint to all authors involved, including the lead author who was the program scientist with responsibility for overseeing the QUELD program.

Sincerely,

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Copied:

Steve MacLean (Canadian Space Agency President)