Count Rate Evolution

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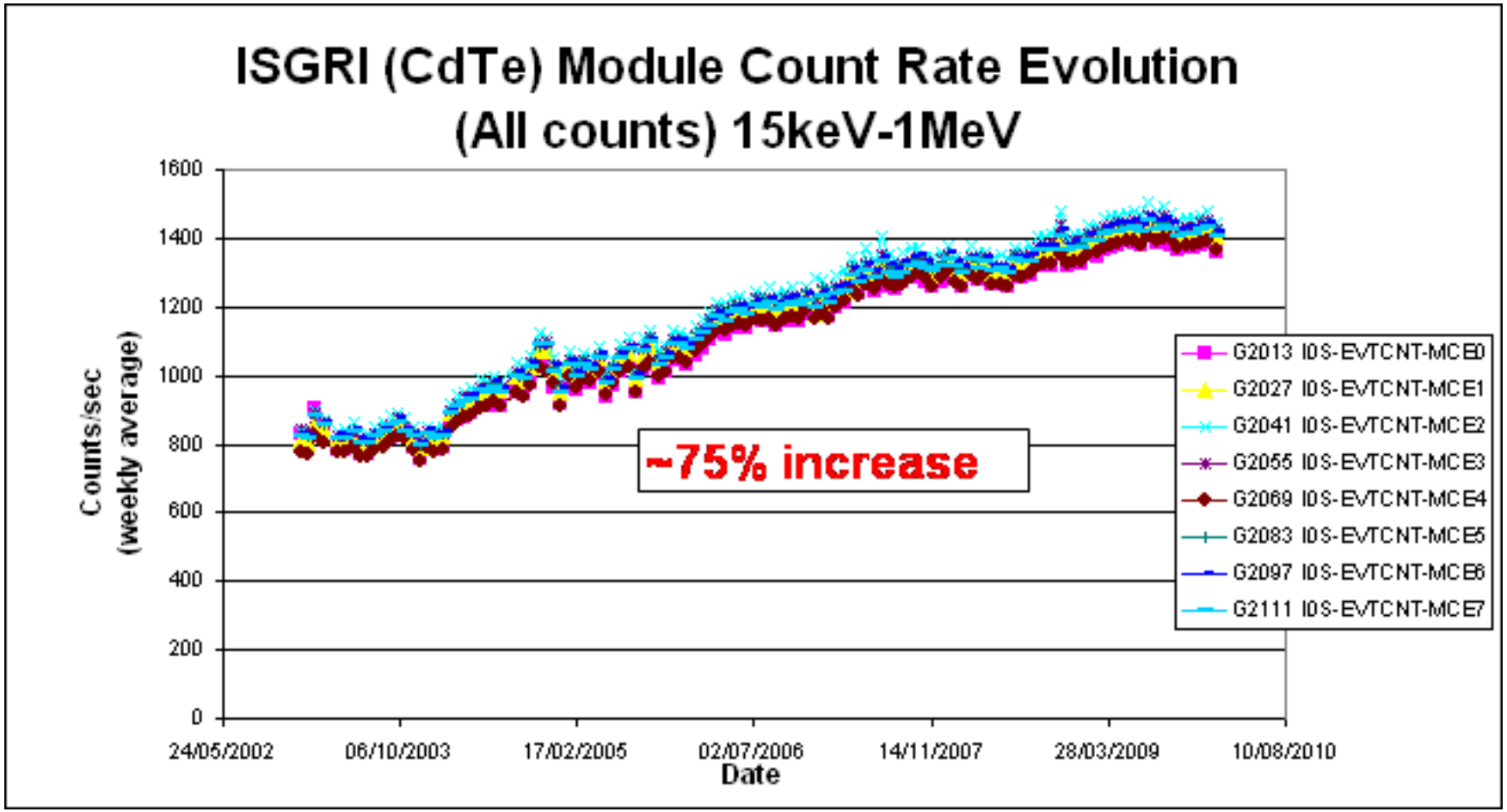
Count Rate Evolution



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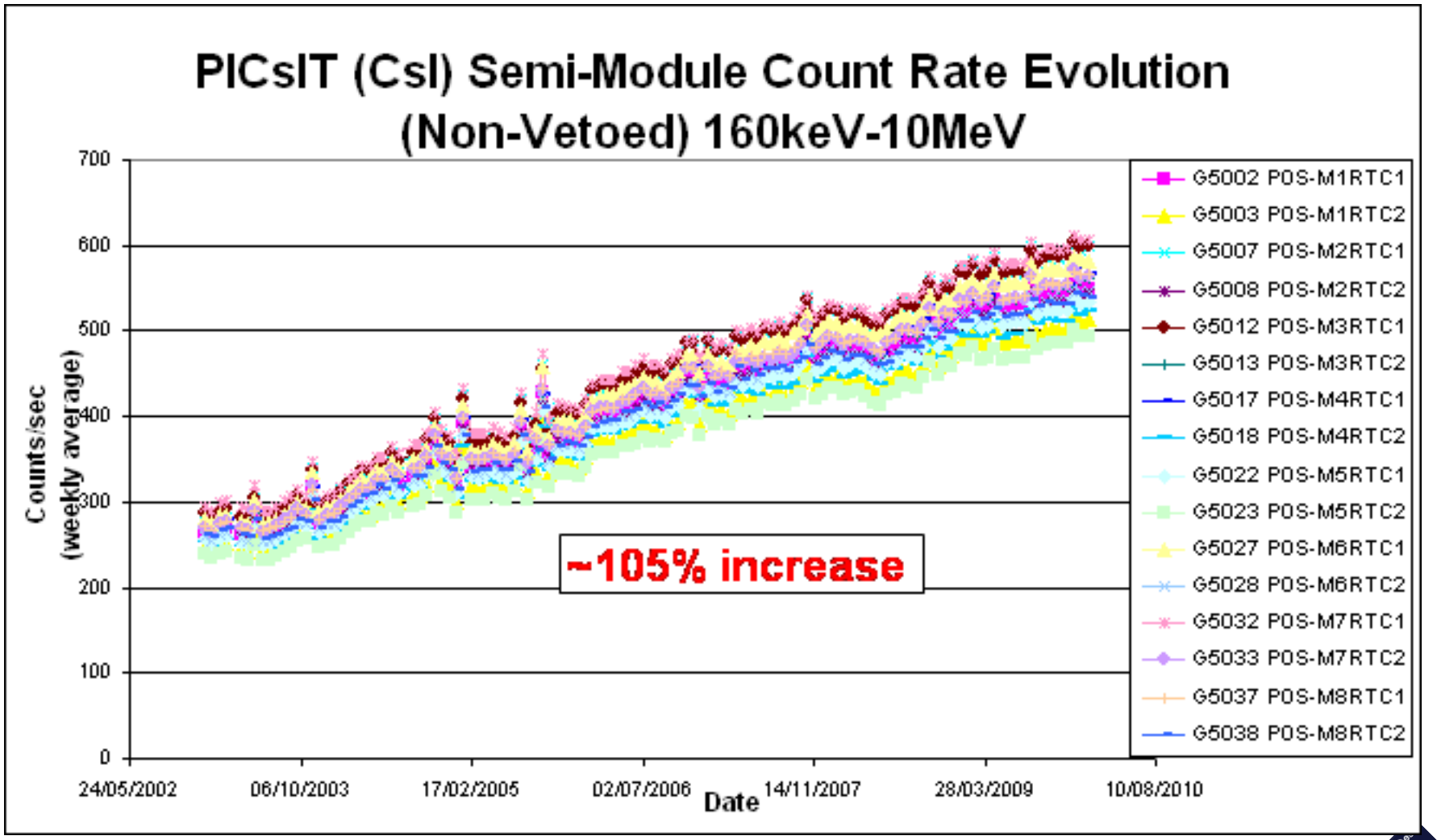

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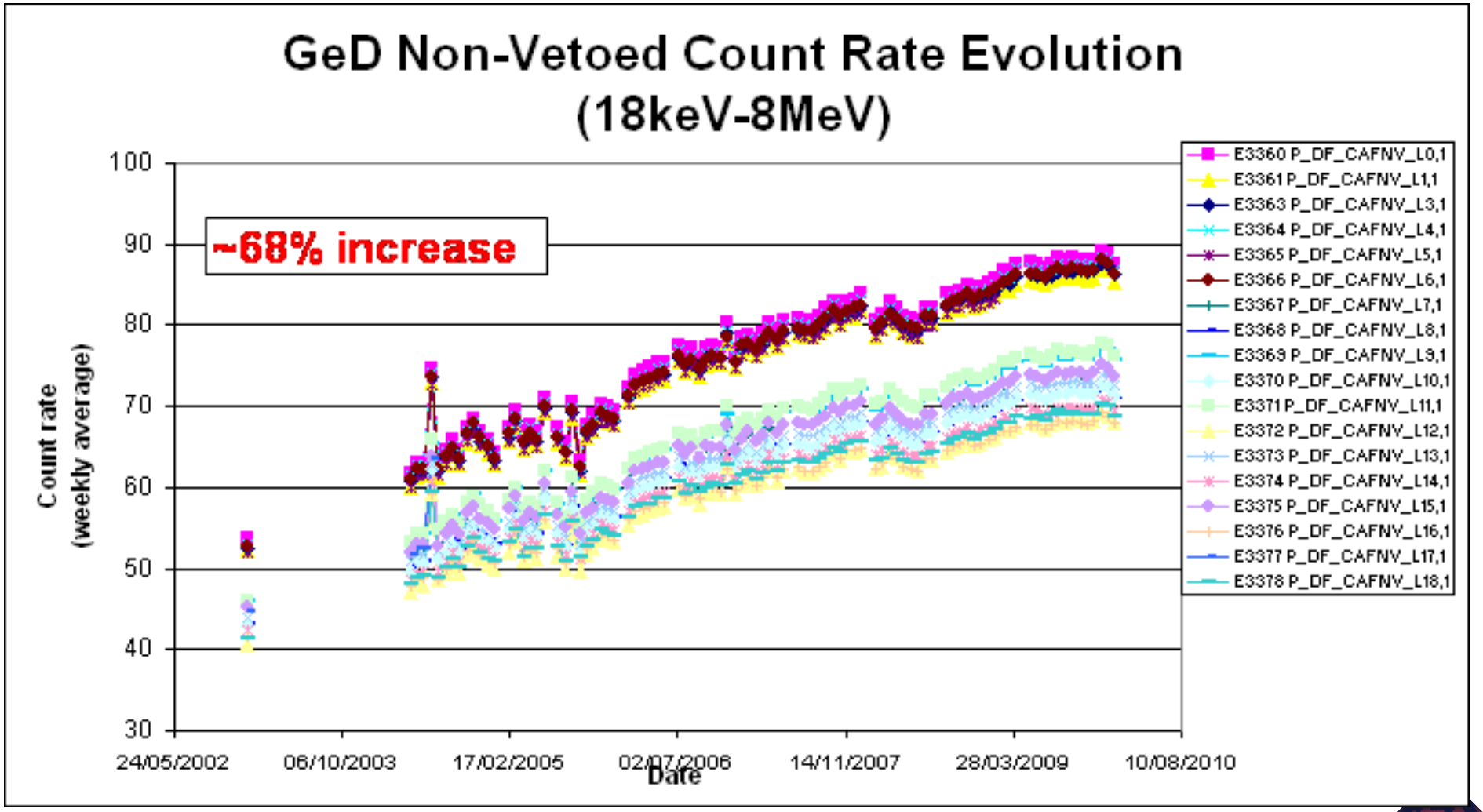

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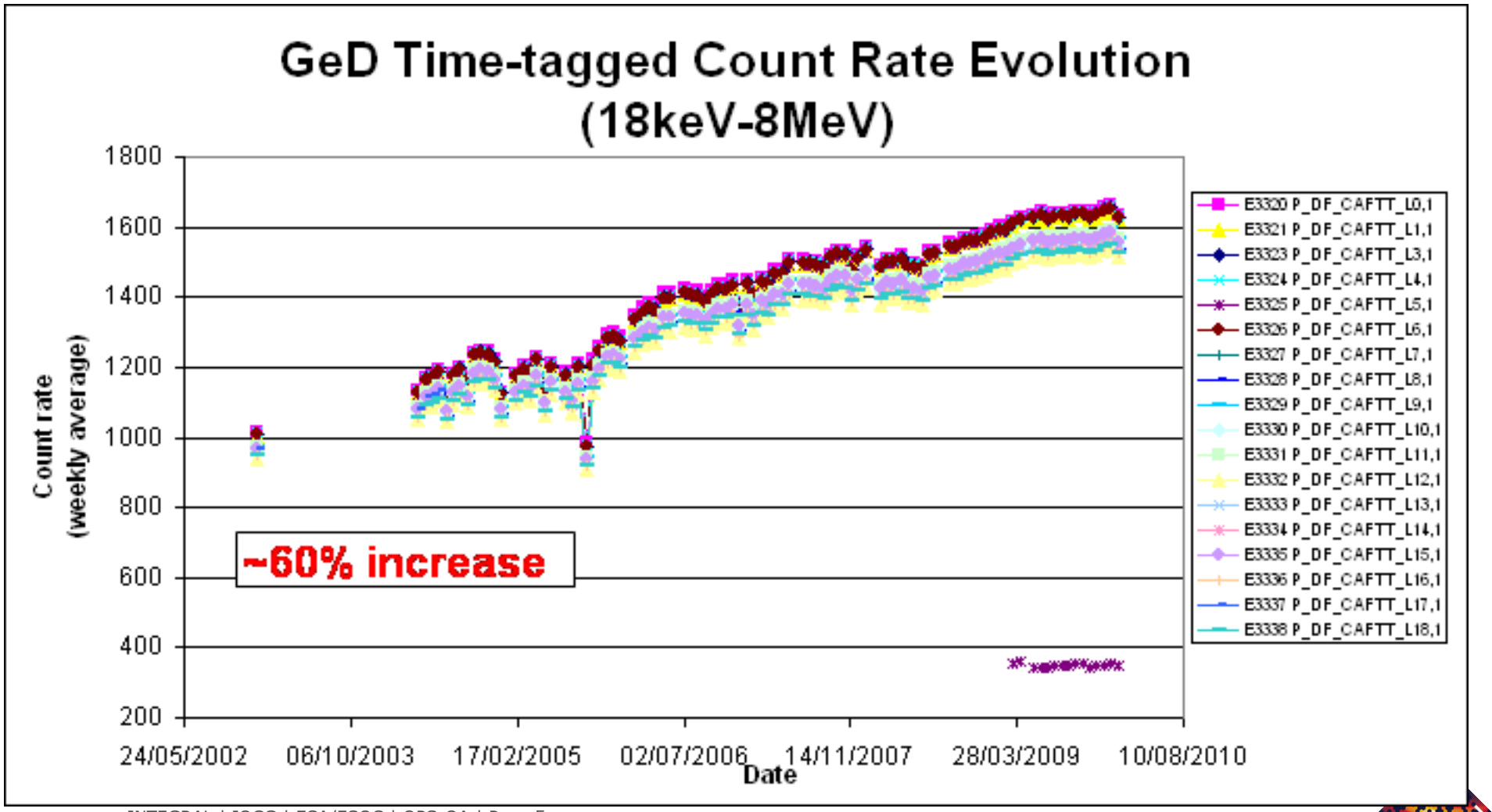

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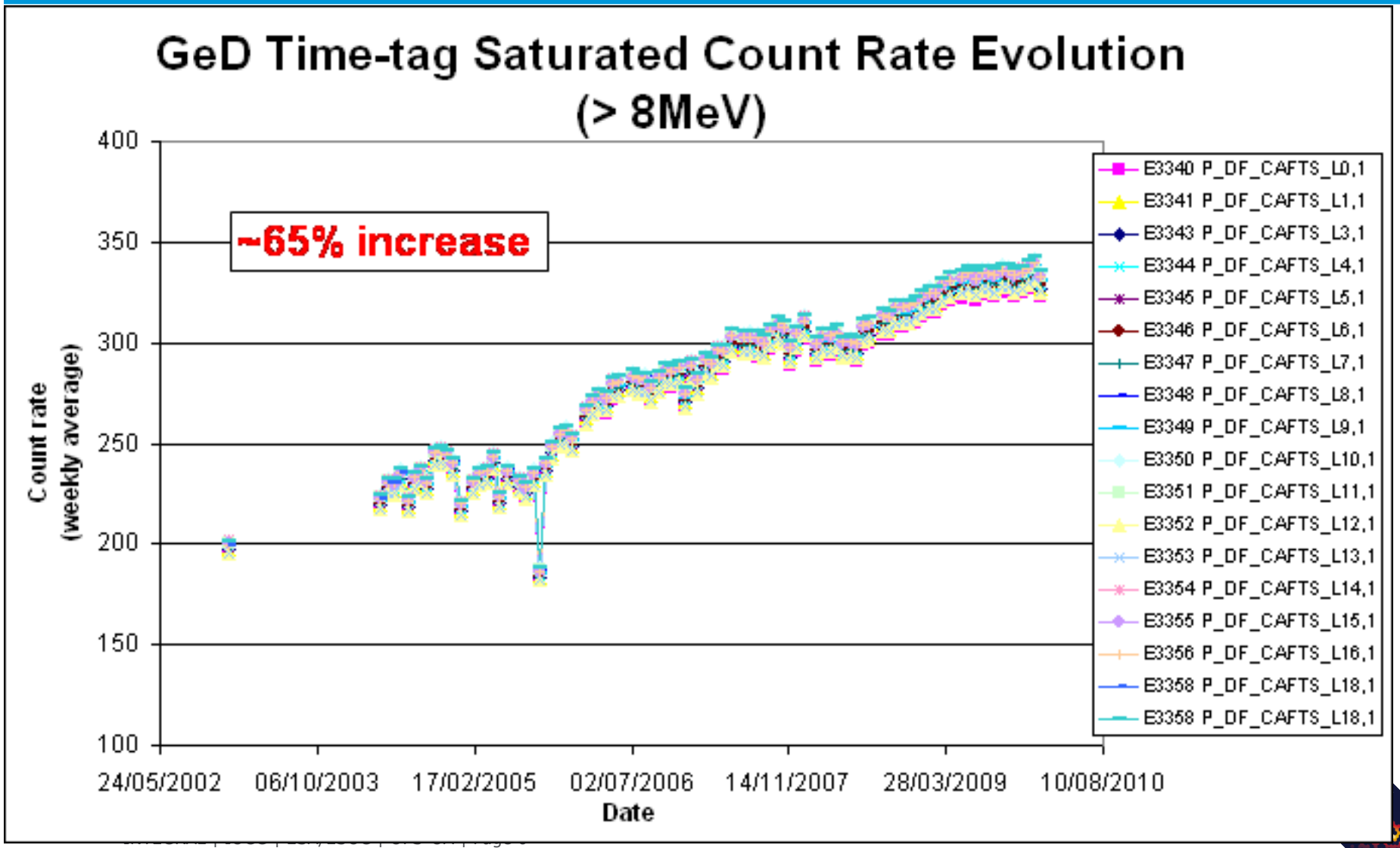

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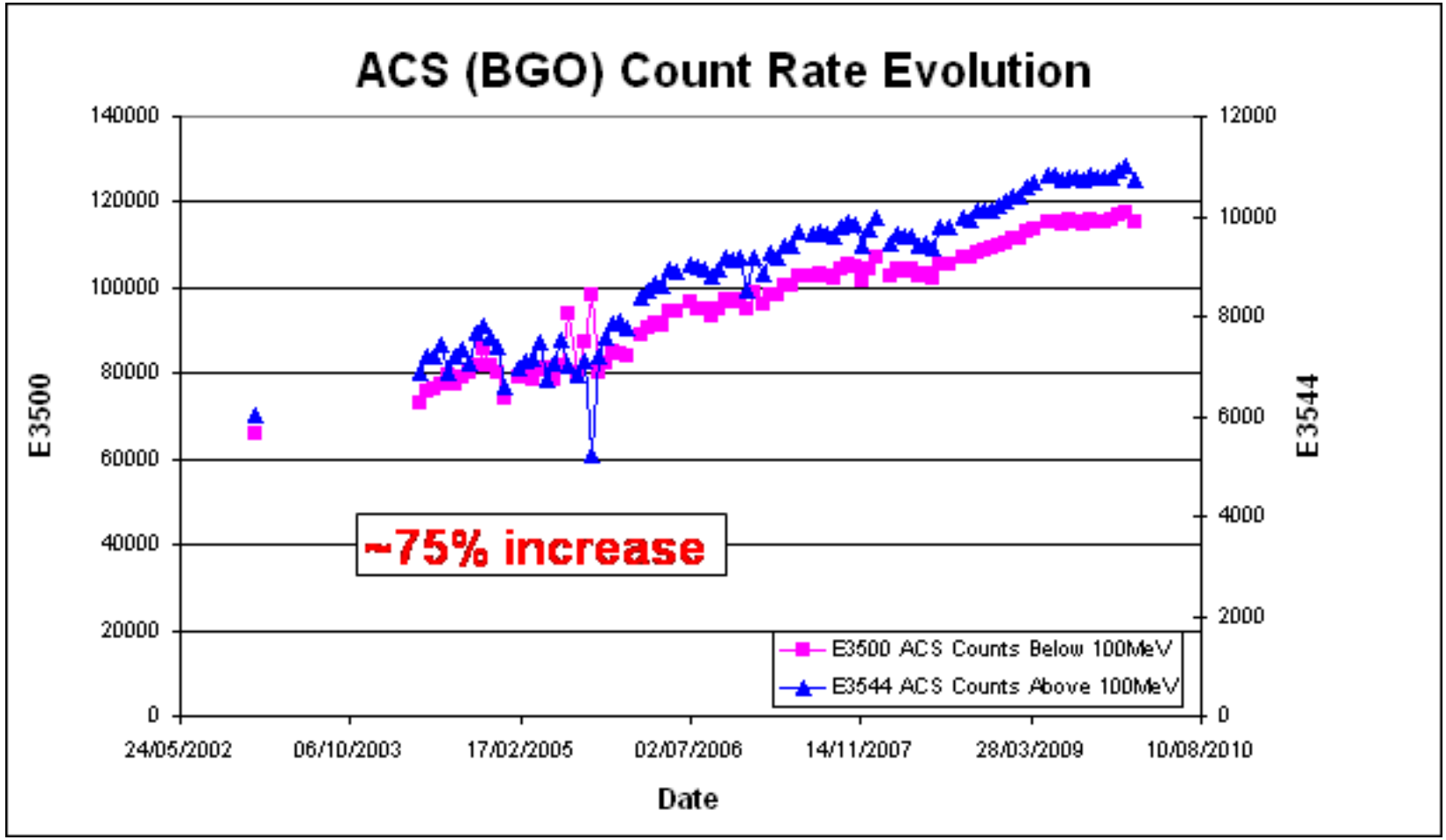

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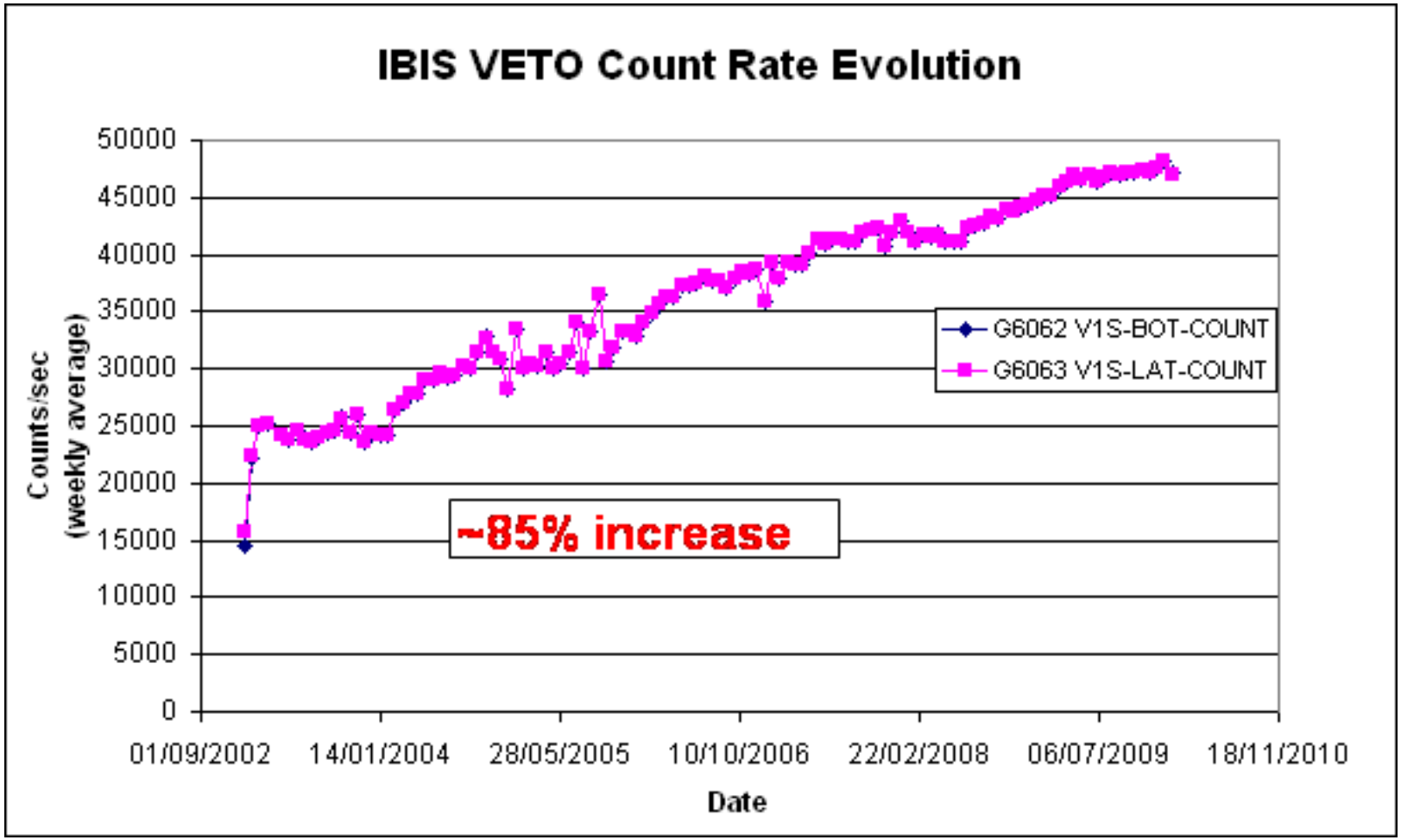

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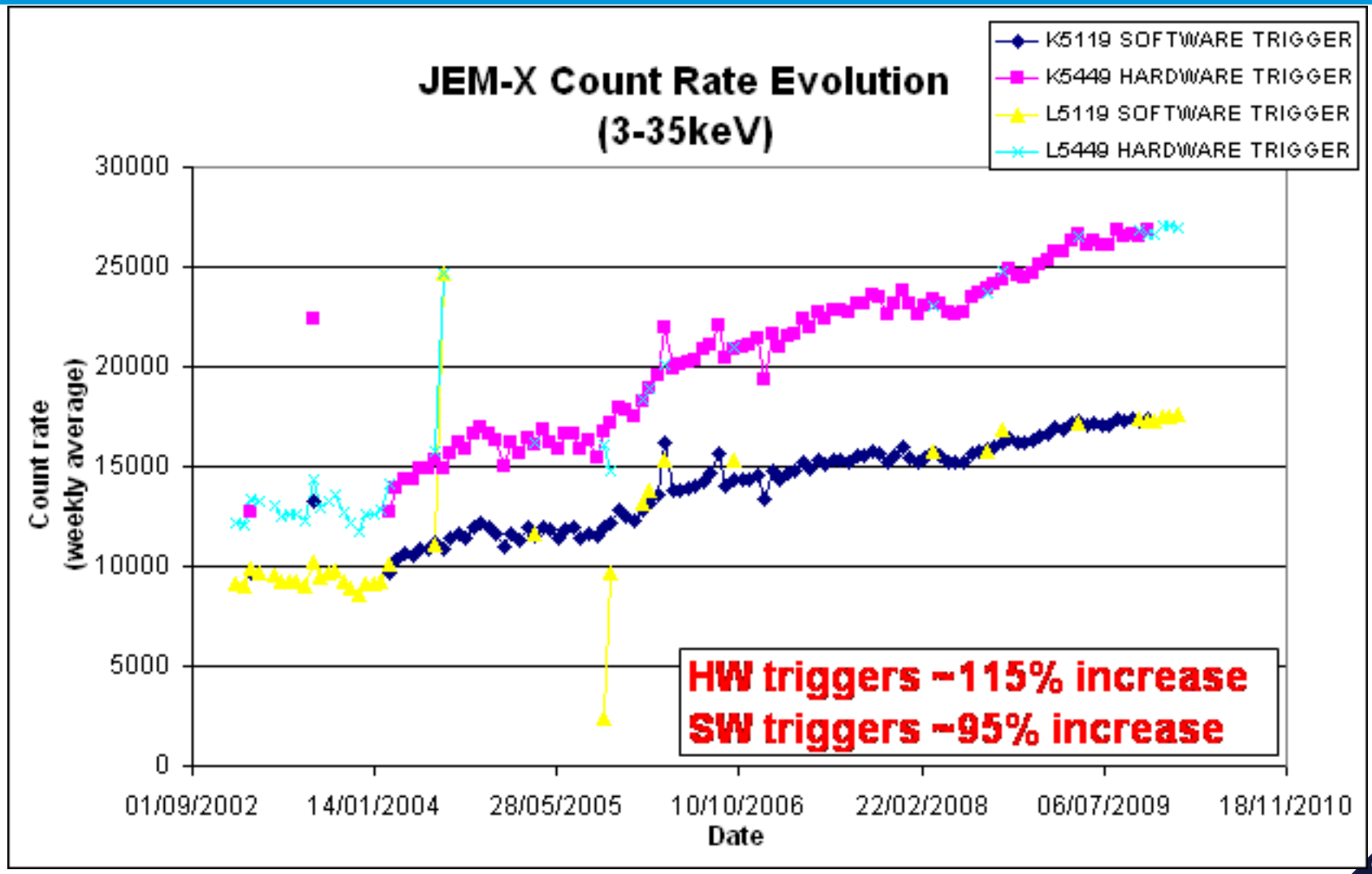

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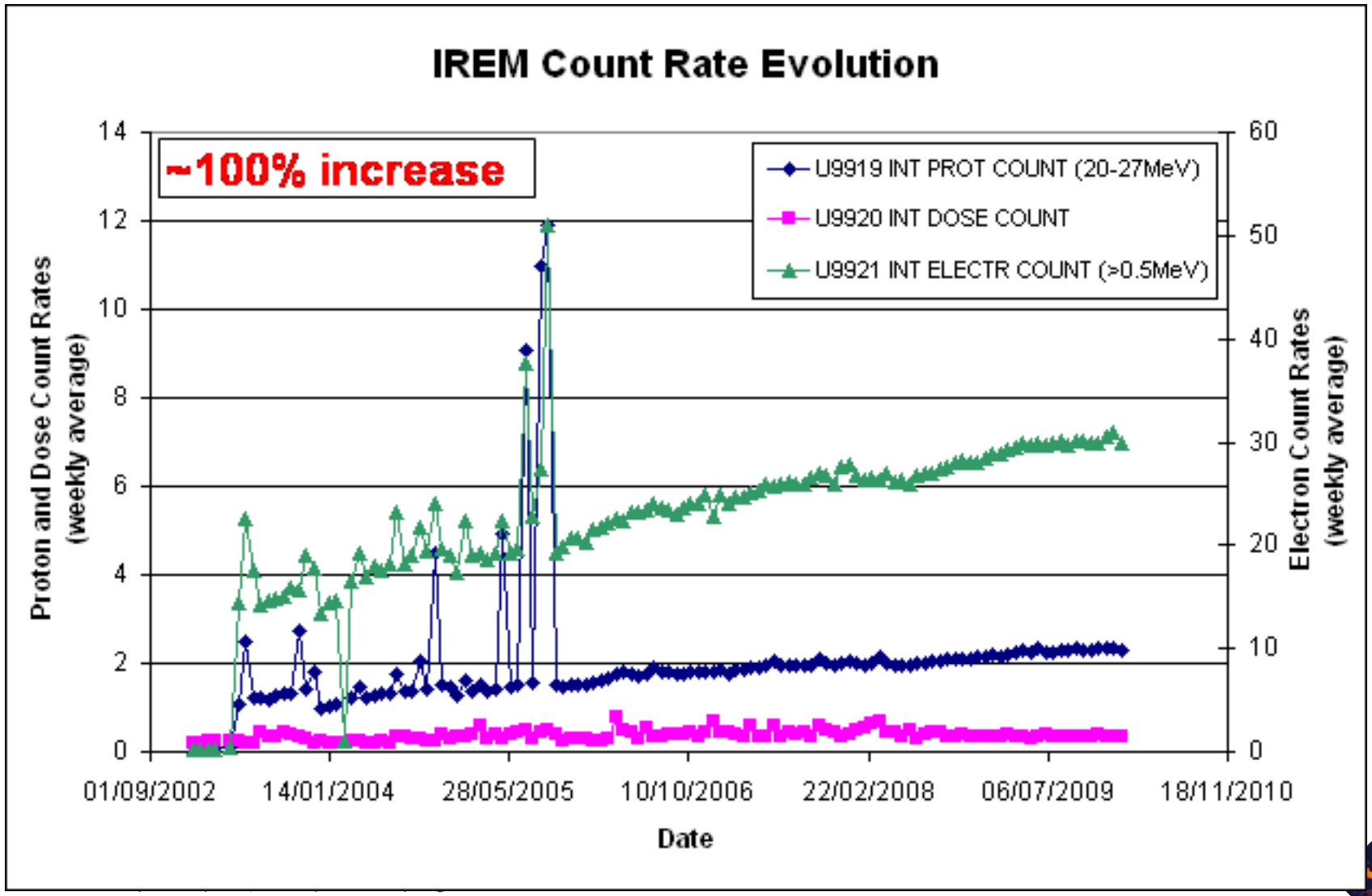

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Conclusions

•All count rates increasing for all instruments; vetoed & non-vetoed.

•Background dominated rates (e.g. TT or ACS) show similar pattern whereas non-vetoed count rate evolution is more linear.

•All count rates seem to be levelling off. Slight drop since Jan 2010

•Solar activity plays a role, can be seen from increase during periods of low solar activity and levelling off as solar activity increases.

•Large factor is instrumental background, which increases with activation of the material over time due to interaction with cosmic rays. The effect is cumulative.

•Non-active JEM-X follows the trend of active unit; when it is switched on, count rate has jumped, therefore increase is external and not phenomenon occurring inside each instrument. Also supported by fact that increase seen in all instruments and not vetoed out.

Count Rate Evolution

Questions

- Why do non-vetoed counts not show same pattern as overall counts?
- Which is the material which is becoming most radioactive? BGO?
- Effect of proton belts?
- Expected drop due to increased solar activity?
- Can see increases more in certain energy bands?
- Other x/gamma ray missions have seen this too? (Sigma, Swift, Exosat, XTE)