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SOME CONSIDERATIONS ON SOFTWARE RELIABILITY AND SOFTWARE CYBERNETICS

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Abstract The reliability problem is extremely important for safety critical software. This paper addresses the three basic issues of software reliability engineering and reviews the current status of software reliability research, including the major problems that should be tackled in this area. This paper then describes the motivating backgrounds of software cybernetics, which is aimed to explore the interplay between software and control. One of the major themes in software cybernetics is how to apply existing principles and theories of control engineering to software engineering to make software processes more rigorous and repeatable and thus to achieve the reliability benefits. This paper concludes with identifying a few research directions in the newly emerging area of software cybernetics.

Key words software reliability, software cybernetics, software testing, control theory

·资料·信息·

中国科学院、国家自然科学基金委员会在京签署《柏林宣言》

中国科学院院长路甬祥、国家自然科学基金委员会主任陈宜瑜 2004 年 5 月 24 日在北京分别代表各自机构签署《柏林宣言》,以推动全球科学家共享网络科学资源。

《柏林宣言》由德国马普学会发起,德国、法国、意大利等国的科研机构于 2003 年 10 月 22 日在德国柏林联合签署。宣言全称为《关于自然科学与人文科学资源的开放使用的柏林宣言》,旨在利用互联网整合全人类的科学与文化财产,为各国研究者和网络使用者提供一个免费的、更开放的科研环境。宣言呼吁各国科研机构向网络使用者免费开放更多

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(宣传处 供稿)