2010B期 採択長期利用課題の中間評価について

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2010B期に採択された1件の長期利用課題について、平成24年4月にSPring-8利用研究課題審査委員会長期利用分科会により中間評価が行われました。

長期利用課題の中間評価は、実験開始から1年半が経過した課題の実験責任者が成果報告を行い、長期利用分科会が、対象課題の3年目の実験を実施するかどうかの判断を行うものです。以下に対象課題の評価結果および評価コメントを示します。

課題名	Nuclear Resonance Vibrational Spectroscopy (NRVS) of Iron-Based Enzymes for Hydrogen Metabolism, Nitrogen Fixation, Small Molecule Sensing, DNA Repair, Photosynthesis, and Iron Storage
実験責任者(所属)	Stephen Cramer (University of California, Davis)
採択時の課題番号	2010B0032
ビームライン	BL09XU
評価結果	3年目を実施する

〔評価コメント〕

Cramer's group has been applying Nuclear Resonance Vibration Spectroscopy (NRVS) to biological molecules, such as metalloprotein. In the first two years of the long-term project, Cramer's group applied this technique to reveal functional mechanism of catalytic activities of Fe-S enzymes in hydrogenase and nitrogenase. They clearly showed many results of binding of ligand molecules to the enzymes. These results gave much information that cannot be obtained by other spectroscopic techniques. Thus, the committee strongly supports to continue the next half of the long-term project. The NIH grant for this project is renewed for the next 3 years and this support will be quite helpful for the further progress on NRVS studies by Cramer's group.

Even though the results obtained by Cramer's group include much information on the binding mode of the ligands, these results mostly gave only chemical properties of the active center of the enzymes. The committee will expect much more novel biological understanding of the metalloenzymes from NRVS measurements in the next half term.