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Das Kaushik

Sarkar Dyuti Prakash

Chakraborti Tushar Mouli

Katharina Otto*

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2021.3.1 2023.3.31

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Chakraborti Tushar Mouli

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(Investigation of high-pressure phase transition in the pyroxene - garnet system under dry and wet conditions)

MgO-SiO₂-H₂O

(Melting relations from the mantle transition zone to uppermost lower mantle in the MgO-SiO₂-H₂O system)

(Constraints on the effect of high oxygen fugacity and water on the melting temperature of wadsleyite by multi-anvil experiments)

NWA 6148 NWA 10153

(Elucidation of aqueous alteration in the nakhlites body with NWA 6148 and NWA 10153)

(High resolution mass spectrometry analysis of the alkaline copper oxide degradation products from organic macromolecules in the samples of primitive small bodies)

(Distribution and formation of organic aerosols in Beijing and Yokohama)

(Estimation of the source locations of primary microseisms excited by typhoons around Japan)

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(Petrological study of Sangun-Renge belt exposed in Sasaguri, Fukuoka prefecture)

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NGOMBI MAVUNGOU Larissa Tectonic processes during Maizuru back-arc basin closure:

Geochemical, geochronological, and structural approaches

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Effect of water-saturated cracks on seismic velocity and transport properties of oceanic crust

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	L. Cury , A. Bahniuk (,)	
Semri	P. Chakraborty (,))	
	A. Mors ())	
Baba gorgor	K. Taheri () ,)	
	Dr. S. Ghosh (IIT, Kharagpur,)	
	R. Stroud, B.T. De Gregorio (,), L. Nittler, G. Cody (,), L. Bonal, E. Quirico (,), L. Remusat (,), ,), C. Engrand, E. Dartois, J. Mathurin, J. Duprat (=))	

	G. Ghosh , S. Bose (,)	
	A. Chattopadhyay (,)	
	B. Li (,)	
	G. Gwanmesia (,)	
	A. Bobrov (,)	
superhydrous phase B	C. Xu (,)	
	Q. Liu (,)	
Precambrian Basin	P. P. Chakraborty (,)	
South Delhi Fold Belt	A. Chattopadhyay (,)	
	S. Bose , G. Ghosh (,)	
Dharwar Craton	A. Chatterjee (Pondicherry ,)	
	P. Dasgupta (Kazi Nazrul ,)	
	(,) J. Buchen (,)	
	L. Wang, , (,)	

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Eranga Jayawickrama		

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- Jayawickrama E. G., and Katayama I., 2023. Elastic properties of thermally treated diabase and peridotite: Implications toward the elastic properties of oceanic lithosphere. *Journal of Geophysical Research*, 128, e2022JB026143. doi.org/10.1029/2022JB026143
- Katayama I., Yoshida M., and Hirauchi K., 2022. Effects of rheological stratification and elasticity of lithosphere on subduction initiation. *Frontiers in Earth Science*, doi.org/10.3389/feart.2022.988320
- Nagase K., Hatakeyama K., Okazaki K., Akamatsu Y., Abe N., Michibayashi K., and Katayama I. (corresponding author), 2022. Simultaneous Measurements of Elastic Wave Velocity and Porosity of Epidiosites Collected From the Oman Ophiolite: Implication for Low VP/VS Anomaly in the Oceanic Crust. *Geophysical Research Letters*, 49, e2022GL098234. doi.org/10.1029/2022GL098234
- Miyamoto T., Hirono T., Yokoyama Y., Kaneki S., Yamamoto Y., Ishikawa T., Tsuchiyama A., Katayama I., Yabe Y., Ziegler M., Durrheim R. J., and Ogasawara H., 2022. Characteristics of Fault Rocks within the Aftershock Cloud of the 2014 Orkney Earthquake (M5.5) Beneath the Moab Khotsong Gold Mine, South Africa. *Geophysical Research Letters*, 49, doi.org/10.1029/2022GL098745
- Fujioka R., Katayama I. (corresponding author), Kitamura M., Okuda H., and Hirose T., 2022. Depth profile of frictional properties in the inner Nankai accretionary prism using cuttings from IODP Site C0002. *Progress in Earth and Planetary Science*, 9, 31. doi.org/10.1186/s40645-022-00488-1
- Park Y., Azuma S., Okazaki K., Uesugi K., Yasutake M., Nishihara Y., Nomura R., 2022. Development of lattice-preferred orientations of MgO periclase from strain rate controlled shear deformation experiments under pressure up to 120 GPa. *Geophysical Research Letters*, 49, e2022GL100178. https://doi.org/10.1029/2022GL100178
- Bhattacharya P., Rubin A.M., Tullis T.E., Beeler N.M., Okazaki K., 2022. The evolution of rock friction is more sensitive to slip than elapsed time, even at near-zero slip rates. *Proceedings of the National Academy of Sciences*, 119, e2119462119. https://doi.org/10.1073/pnas.2119462119
- Papeschi S., Vannucchi P., Hirose T., Okazaki K., 2022 Deformation and material transfer in a fossil subduction channel: Evidence from the Island of Elba (Italy). *Tectonics*, 41, e2021TC007164. https://doi.org/10.1029/2021TC007164
- Kelemen P.B., de Obeso J.C., Leong J.A., Godard M., Okazaki K., Kotowski A.J., Manning C.E., Ellison E.T., Menzel M.D., Urai J.L., Hirth G., Rioux M., Stockli D.F., Lafay R., Beinlich A.M., Coggon J.A.,

- Warsi N.F., Matter J.M., Teagle D.H.A., Harris M., Michibayashi K., Takazawa E., Sulaimani Z.A., the Oman Drilling Project Science Team., 2022. Listvenite formation during mass transfer into the leading edge of the mantle wedge: initial results from Oman Drilling Project Hole BT1B. *Journal of Geophysical Research: Solid Earth*, <https://doi.org/10.1029/2021JB022352>
- Bui D.V., Takeshita T., Ando J., Yamamoto T., Huang W., Yeo T., and Czertowicz T.A., 2023. Development of the Median Tectonic Line-related shear zone, southwest Japan: An analysis of strain localization processes. *Tectonophysics*, 850, 229751. <https://doi.org/10.1016/j.tecto.2023.229751>
- Obata M., Mashimo T., Ando J., Chen L., Kawai N., Liu X., and Yamamoto T., 2023. High-pressure shock compression of olivine: dynamic pulverization and frictional melting. *Physics of the Earth and Planetary Interiors*, 338, 107009. <https://doi.org/10.1016/j.pepi.2023.107009>
- Hirayama T., Shibata T., Yoshikawa M., Abbou-Kébir K., Kimura K., Osanai Y., Das K., Hayasaka Y., Takemura K., 2022. Origin of xenoliths in Hime-shima volcanic group, Kyushu, Southwest Japan Arc. *Journal of Mineralogical and Petrological Sciences*, 117, 211217b.
- Sharma A., Das K., Chakraborty P.P., Shiraishi F. and Kayama M., 2022. U-Pb zircon age of pyroclastic rock from the Parsoi Formation, Mahakoshal Belt: Implications towards Orosirian oxygenic basin formation and related tectonics in Central Indian Tectonic Zone. *Geological Journal*, 57, 4122-4138, doi:10.1002/gj.4533.
- Ngombi Mavoungo L., Das K., Kawaguchi K., Hayasaka Y., Shibata T., 2022. Back-arc basin closure at the East Asian margin during Permo-Triassic boundary: Sedimentary breccia, geochemistry, and U-Pb zircon data from Maizuru Terrane, Southwest Japan. *Geosystems and Geoenvironment*, 1(3), 100080 (10.1016/j.geogeo.2022.100080)
- Sarkar D. P., Ando J., Ghosh G, Das K., Dasgupta P., Naotaka T., 2022. Fault zone architecture and lithology dependent deformation mechanisms from the Himalayan Frontal Fold-thrust belt (FTB): insights from the Nahan thrust, NW India. *GSA Bulletin* (2023) 135 (5-6): 1206–1224. (10.1130/B36246.1)
- Dey S., Dasgupta P., Das K., Goto K., Matin A., Suzuki K., Kubota M., 2022. Krol Sandstone-black shale association of the Lesser Himalayan Neoproterozoic succession, Himachal Pradesh, India: An unexplored record of the hothouse aftermath, *Marine and Petroleum Geology*, 141, 105723 (10.1016/j.marpetgeo.2022.105723)
- Chatterjee A., Oh C.W., Lee B.C., Das K., Hidaka H., 2022. Metamorphic evolution of the Sittampundi Layered Complex, India during the Archean-Proterozoic boundary: insight from pseudosection modeling and zircon U-Pb SHRIMP geochronology. *Geological Magazine*, 159, 1355-1383 (10.1017/S0016756822000164).
- Bose S., Sorcar N., Das K., Ganguly P., Mukherjee S., 2022. Pulsed tectonic evolution in long-lived orogenic belts: an example from the Eastern Ghats Belt, India. *Precambrian Research*, 369, 106522, (DOI:10.1016/j.precamres.2021.106522).
- Kawaguchi K., Hayasaka Y., Shibata T., Kimura K., Das K., 2022. Tectonic evolution of Southwest Japan at the Cretaceous time inferred from the zircon U-Pb geochronology along the Maana Belt, western Shikoku, Japan. *Lithos*, 410-411, 106568 (DOI:10.1016/j.lithos.2021.106568).

Apurva Alok, Pant N.C., Das K., Tsutsumi Y., Kumar P., Chopra S., Saini H.S., Khan A.A., 2023. New insights on the geological evolution of paleorivers and their relationship to Indus civilization and early Historic settlements on the plains of Haryana, NW India. Quaternary Geochronology of India, Special Publications 515, Geological Society of London. <https://doi.org/10.1144/SP515-2020-161>

_____, _____, 2022.

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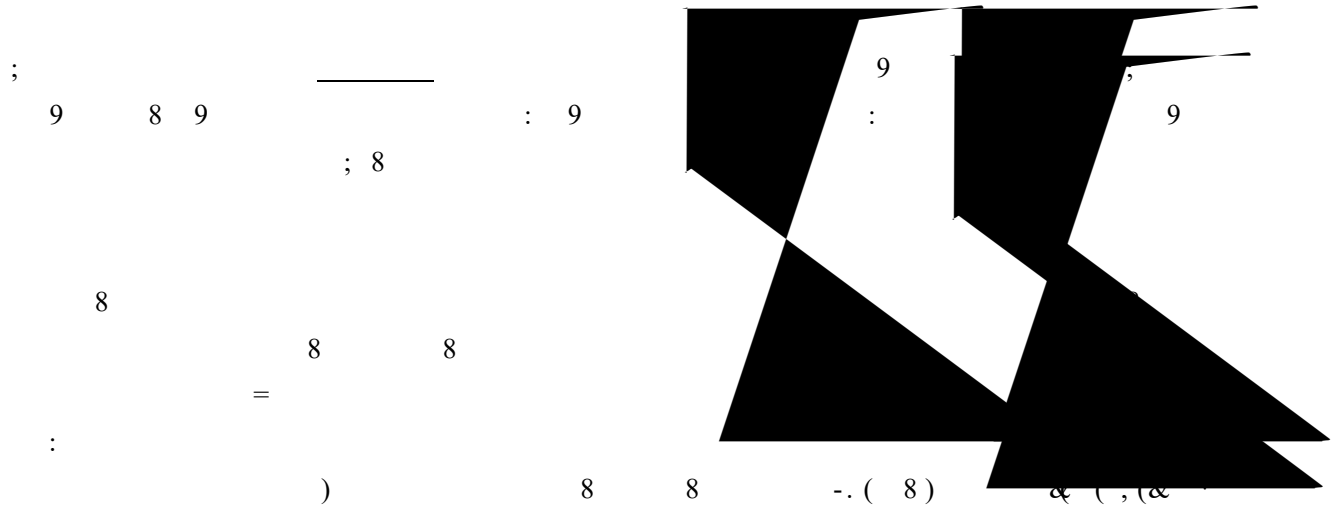
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Eranga Gayanath Jayawickrama, Ikuo Katayama, Elastic properties of thermally treated diabase and peridotite: Implications towards the elastic properties of oceanic lithosphere. American Geophysical Union 2022 Fall Meeting (San Francisco, on line), 2022.12.10

Ganguly P., Bose S., and Das K., Metasomatic transformation and deformation at the calc-silicate granulite and charnockite interface in the Phulbani area of the Eastern Ghats Province, India: Implications on the fluid movement and strain localization in the lower crust. American Geophysical Union 2022 Fall Meeting, 2022.12.15

Banerjee A., Ganguly P., Bose S., Das K., Sorcar N., Two-stage metamorphism of the Angul-Tikarpada area, Eastern Ghats Belt and its implications on the India-East Antarctica correlation. Goldschmidt 2022, 2022.7

Chaudhuri A., (Oral) Dunkl I., Schönig J., Eynatten H. von, Das K., Geochronology of sediments as a tool to identify lost geological features - a case study from the Mesozoic sedimentary succession of the Kutch Basin, western India. EGU 2022. 2022.5.23-27



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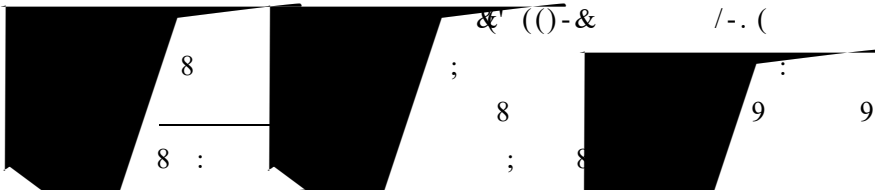
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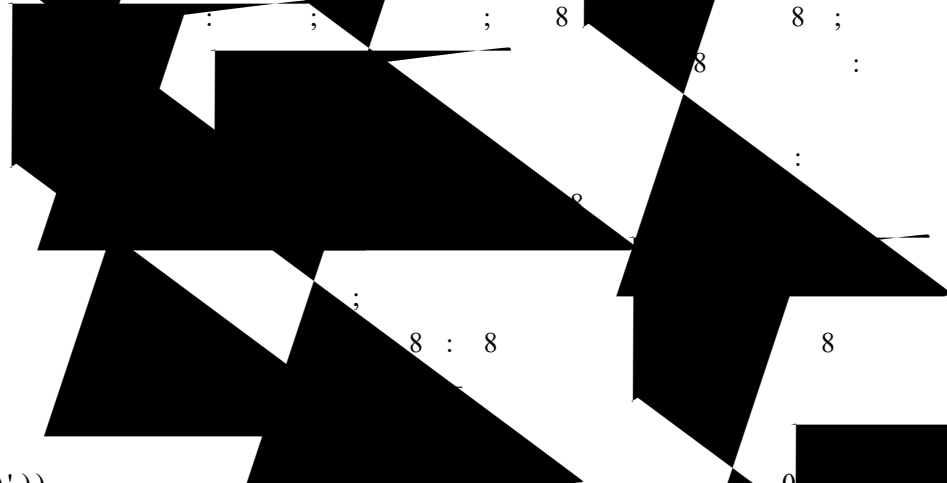
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Xu C., Gréaux S., Inoue T., Noda M., Gao J., Li Y., Sound velocities of superhydrous phase B up to 21 GPa and 900 K. *Geophys. Res. Lett.*, **49**, e2022GL098674, 2022.

Noda M., Inoue T., Tsuchiya T., and Higo Y., Reassessment of a bond correction method for in situ ultrasonic interferometry on elastic wave velocity measurement under high pressure and high temperature. *High Pressure Research*, **42**, 278-293, 2022.

Kojitani H., Yamazaki M., Tsunekawa Y., Katsuragi S., Noda M., Inoue T., Inaguma Y., Akaogi M., Enthalpy, heat capacity and thermal expansivity measurements of MgSiO₃ akimotoite: Reassessment of its self-consistent thermodynamic data set. *Phys. Earth Planetary Inter.*, **333**, 2022. DOI: 10.1016/j.pepi.2022.106937

Fukuyama K., Kagi H., Inoue T., Kakizawa S., Shinmei T., Sano Y., Deligny C., Füre E., Temperature dependence of nitrogen solubility in bridgmanite and evolution of nitrogen storage capacity in the lower mantle. *Sci Rep* **13**, 3537, 2023.

Chen X., Wang M., Inoue T., Liu Q., Zhang L., Melting of Fe-bearing and Fe-free carbonated pelites under fluid-saturated conditions at 6 GPa. *J. Petrology*, **64**, 1-18, 2023

Miyajima N., Buchen J., and Kawazoe T., Twinning in hydrous wadsleyite: symmetry relations, origin, and consequences. *American Mineralogist*, DOI: 10.2138/am-2022-8596

, _____, . 35, 1-10, 2022.

_____, I 10-6 , V 2-8

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, 1-4 , ,

Toru Inoue, Akio Ohta, Masamichi Noda, Effect of Al substitution for dense hydrous magnesium silicates. 23rd General Meeting of the International Mineralogical Association (IMA2022), Lyon, France, 2022.7.18

Yamaguchi K., Kawazoe T., Inoue T., and Sakai T., Clarification of the effect of high oxygen fugacity on melting temperatures of wadsleyite by high-temperature and high-pressure experiments. 5th Japan-
- 1 , ,
2023.1.16

Okumura K., Inoue T., Kawazoe T., Kakizawa S., Noda M., Irifune T., Shinmei T., Melting relations from the mantle transition zone to uppermost lower mantle in the MgO-SiO₂-H₂O system. 5th
- 1 , , 2023.1.17

Ueno T., Inoue T., Kawazoe T., Kakizawa S., Ohara K., Noda M., Shinmei T., Irifune T., The effect of water on the high-pressure phase transition of pyroxene -

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Das Kaushik

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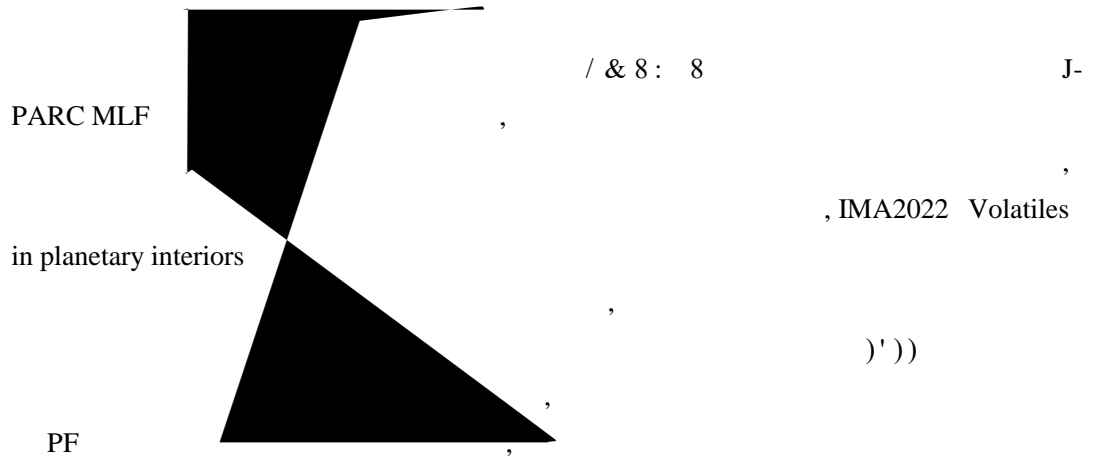
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(Experimental investigation on effects of diagenesis on frictional and hydraulic properties of incoming sediments from Tohoku subduction zone)

(The investigation of the effect of water on Vickers hardness of olivine)

Sr-Nd-Pb

(Sr-Nd-Pb isotopic compositions of Quaternary volcanic rocks of Kuju volcanic group)

Impact melt breccia

(Traces of ultra-high-velocity collision suggestive of Giant Impact recorded in Impact melt breccia)

STXM

(STXM analysis of soot produced by bullet-shooting asteroid sample recovery experiment)

(Laboratory and field scale evaluation of seismic velocities and electrical resistivity of serpentinites)

(Analysis of seismic waves excited by submarine volcanic activities in Tonga and Fukutoku Okanoba)

1273 K

(Phase relations of the olivine polymorphs around subducting slabs at 1273 K)

(A study of the altered parts of a class II lodestone from Magnet Cove, Arkansas, USA)

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(C- and O-XANES of large area meteorite FIB section by complementary application of scanning transmission X-ray microscopy and fill-field transmission X-ray microscopy)

(Elucidation of the peloid formation process by coccoid cyanobacteria)

(Development of measuring system of electrical resistivity anisotropy during triaxial deformation experiments)

(Automatic Monitoring of Deep Low-frequency Tremors Using Deep Learning)

(Physicochemical characteristics of the Quaternary magma, Southwest Japan arc : Inferred from major elements of amphibole)

(Effects of amino acid optical isomer ratios on the prebiotic synthesis of depsipeptides)

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(A study of the maghemization by oxidation of natural magnetite from several localities)

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科目区分	授業科目の名称	配当年次 (注)	単位数		要修得単位数			
			必修	選択 必修				
大学院 共通科目	Hiroshimaから世界平和を考える Japanese Experience of Social Development・Economy, Infrastructure, and Peace	1・2		1	1			
	Japanese Experience of Human Development・Culture, Education, and Health	1・2		1				
	SDGsへの学問的アプローチA	1・2		1	1 単位以上			
	SDGsへの学問的アプローチB	1・2		1				
	SDGsへの実践的アプローチ	1・2		2				
	ダイバーシティの理解	1・2		1				
	キャリア開発・データ	データリテラシー	1・2		1	1 単位以上		
	医療情報リテラシー	1・2		1				
	人文社会系キャリアマネジメント	1・2		2				
	理工系キャリアマネジメント	1・2		2				
	ストレスマネジメント	1・2		2				
	情報セキュリティ	1・2		2				
	MOT入門	1・2		1				
	アントレプレナーシップ概論	1・2		1				
	国際性	アカデミック・ライティング I	1		1	1 単位以上		
	海外学術活動演習A	1・2		1				
	海外学術活動演習B	1・2		2				
	MOTとベンチャービジネス論	1・2		1				
	技術戦略論	1・2		1				
	知的財産及び財務・会計	1・2		1				
論	1・2		1	2 単位以上	3 単位以上	研究科 共通科目	社会性	技術移転
演習	1・2		1					技術移転
思考(基礎)	1・2		1					未来創
成のための国際標準化	1・2		1					ルール形
成のための経営組織論	2		1					理工系
成演習	1・2		1					起業案
演習	1・2		1					事業創
ワークの技法	1・2		1					フィール
シップ	1・2		1					インター
ジュアライゼーションA	1・2		1					データ
ジュアライゼーションB	1・2		1					データ
A	1・2		1					環境原
B	1・2		1					環境原
融合演習	1	2						地球惑
ミッドターム演習	2	1		地球惑				
システム学特別演習A	1	2		地球惑				
システム学特別演習B	1	2		地球惑				
システム学特別研究	1~2	4		地球惑				
システム学概説	1	2		地球惑				
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