

# K-Ar ages of volcanic rocks from the north of the Hoho volcanic zone, central Kyushu: time-space change and new Quaternary volcano

# Yoshihiro Ishizuka[1]; Hideo Hoshizumi[2]; Akikazu Matsumoto[2]

[1] Geol. Surv. Japan, AIST; [2] GSJ, AIST

We measured K-Ar ages of 22 volcanic rocks from the north area of the Hoho volcanic zone, central Kyushu in order to compile the geologic map of the 1:200,000 Nakatsu Quadrangle. The Late Miocene to Pliocene volcanic rocks are widely distributed in the east and west direction, and can be divided into the Usa Volcanic Rocks and Hikoizan Volcanic Rocks. The former are located on the fore-arc side, the latter are on the back-arc side. We obtained K-Ar ages of 5.01-2.81 Ma from the Usa Volcanic Rocks (8 samples), 4.80-3.75 Ma from the Hikoizan Volcanic Rocks (13 samples). These K-Ar ages together with published radiogenic ages suggest that the volcanic activity during the Late Miocene to Pliocene was moved from the east to the west in the fore-arc side (Usa Volcanic Rocks), but was not moved in the back-arc side (Hikoizan Volcanic Rocks). In addition, we also obtained a K-Ar age of 0.86±0.14 Ma from the Ozoyama that had been classified in the Usa Volcanic Rocks. Ozoyama Volcano forms the small lava dome (ca.0.1 km<sup>3</sup> in volume) that consists of pyroxene-hornblende dacite, and is defined as a new Quaternary volcano.

表1 豊肥火山地域北縁に分布する火山岩類のK-Ar年代

ユニット	採取位置	緯度経度(世界測地系)	K <sub>2</sub> O (%)	Rad <sup>40</sup> Ar(10 <sup>-4</sup> ml STP/g)	Non.rad <sup>40</sup> Ar(%)	K-Ar age(Ma)
大蔵山	大蔵山	33°28'12"N.131°22'29"E.	1.85	51±8	96.4	0.86±0.14
宇佐	玖珠町姫椿	33°20'19"N.131°04'02"E.	1.93	175±2	32.8	2.81±0.03
宇佐	鹿熊岳	33°26'05"N.131°07'58"E.	1.98	193±2	32.8	3.02±0.04
宇佐	中津市本耶馬溪町落合	33°27'45"N.131°13'51"E.	1.99	204±5	76.7	3.18±0.07
宇佐	一寸八尺山	33°21'51"N.131°03'55"E.	2.77	290±3	46.2	3.24±0.04
宇佐	鹿嵐山	33°25'38"N.131°14'19"E.	1.99	217±11	89.0	3.38±0.17
宇佐	八面山	33°30'17"N.131°13'20"E.	1.56	179±2	44.4	3.55±0.05
宇佐	中津市三光三倉谷	33°31'43"N.131°13'41"E.	2.45	175±2	43.4	3.47±0.05
英彦山	檜原山	33°29'29"N.131°05'26"E.	1.94	282±6	74.9	3.57±0.08
英彦山	釣鐘山	33°25'56"N.131°01'58"E.	1.62	235±3	38.0	3.75±0.05
英彦山	求菩提山	33°32'24"N.131°00'52"E.	2.22	207±3	31.4	3.97±0.05
英彦山	国見山	33°34'31"N.131°00'56"E.	2.53	212±3	22.9	4.05±0.05
英彦山	国見山	33°34'16"N.131°00'48"E.	1.54	294±3	36.3	4.09±0.05
英彦山	中津市山国町茸木	33°23'30"N.131°00'32"E.	1.66	336±4	36.0	4.12±0.05
英彦山	樋桶山	33°27'29"N.131°04'38"E.	1.58	336±4	28.0	4.11±0.06
英彦山	大平山	33°30'51"N.131°08'42"E.	1.62	211±3	33.0	4.25±0.06
英彦山	経読岳	33°31'19"N.131°02'11"E.	1.65	231±3	23.9	4.30±0.05
英彦山	豊前市綾瀬	33°33'27"N.131°02'29"E.	1.17	220±3	42.8	4.30±0.05
英彦山	中津市三光點婦	33°30'53"N.131°10'19"E.	0.591	238±4	34.5	4.55±0.08
英彦山	瓦岳	33°30'31"N.131°07'13"E.	1.60	224±3	48.1	4.28±0.06
英彦山	犬ヶ岳	33°30'44"N.131°00'08"E.	1.47	168±2	46.3	4.39±0.05
宇佐	御許山	33°29'20"N.131°24'32"E.	1.75	85±2	64.6	4.46±0.11
				92±4	87.1	4.79±0.20
				234±2	23.0	4.55±0.05
				233±2	18.8	4.53±0.05
				228±2	15.6	4.80±0.05
				284±4	30.2	5.02±0.07
				283±3	19.3	5.00±0.06