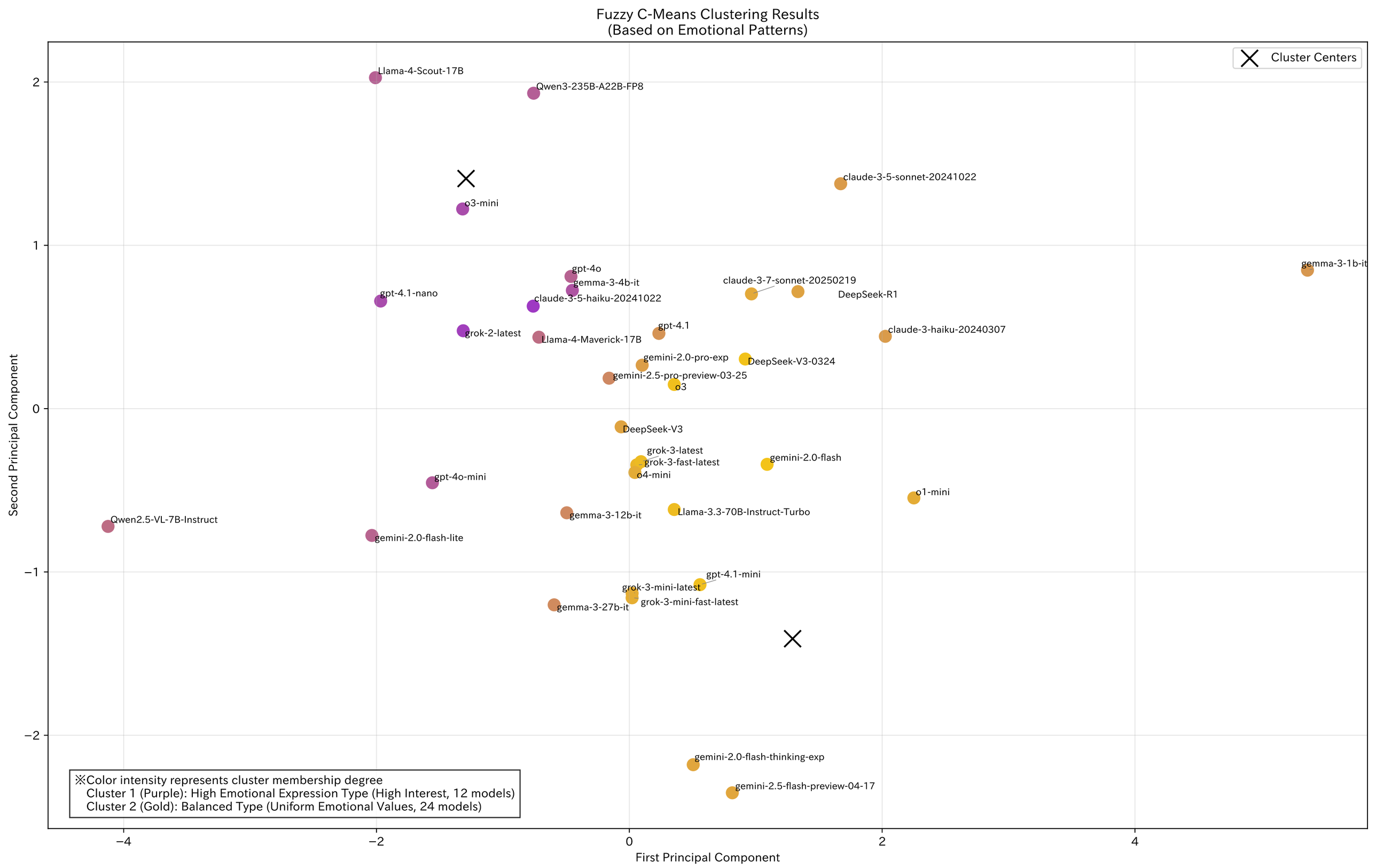
Fuzzy C-Means Clustering Results
(Based on Emotional Patterns)
Cluster Centers
Llama-4-Scout-17B
Qwen3-235B-A22B-FP8
claude-3-5-sonnet-20241022
o3-mini
gemma-3-1b-it
gpt-4o
gemma-3-4b-it
claude-3-7-sonnet-20250219
DeepSeek-R1
gpt-4.1-nano
claude-3-5-haiku-20241022
gpt-4.1
claude-3-haiku-20240307
grok-2-latest
Llama-4-Maverick-17B
gemini-2.0-pro-exp
DeepSeek-V3-0324
gemini-2.5-pro-preview-03-25
o3
DeepSeek-V3
grok-3-latest
grok-3-fast-latest
gemini-2.0-flash
o4-mini
gpt-4o-mini
o1-mini
Qwen2.5-VL-7B-Instruct
gemma-3-12b-it
Llama-3.3-70B-Instruct-Turbo
gemini-2.0-flash-lite
gpt-4.1-mini
grok-3-mini-latest
grok-3-mini-fast-latest
gemma-3-27b-it
gemini-2.0-flash-thinking-exp
gemini-2.5-flash-preview-04-17
※Color intensity represents cluster membership degree
Cluster 1 (Purple): High Emotional Expression Type (High Interest, 12 models)
Cluster 2 (Gold): Balanced Type (Uniform Emotional Values, 24 models)
Second Principal Component
First Principal Component
2
1
0
−1
−2
−4
−2
0
2
4