Таблица выбора приемов устранения технических противоречий

	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39																																						
Что ухудшается при изменении	жного	вижного	движного	одвижного	подвижного	неподвижного	движного	подвижного			ие, давление		ость 5ъекта		иствия иго объекта	иствия ного объекта	ура	IOCTb G	нергии им объектом	энергии жным объектом		энергии	щества	формации	оемени	во вещества	4	измерения	изготовления	факторы, цие на объект	факторы	изготовления	эксплуата ции	ремонта	я,	ь устройства	ь контроля иия	втоматизации	N icalian or a
Что нужно изменить по условиям задачи	Вес подви объекта	Вес непод объекта	Длина по, объекта	лина неі 5ъекта	Площадь объекта	Площадь объекта	Объем пс объекта	Объем не объекта	Скорость	ла	апряжен	Форма	тойчиво	Прочность	Время де подвижно	эемя де	емперат	свещен	атраты э одвижне	Затраты э неподвиж	ощност	Потери эн	отери ве	отери и	Потери в	личест	адежнос	чность	чность	Вредные с действую	Вредные самого об	цобство	тобство	фество	Адаптаци универса	пожност	измере	Степень а	200
01. Вес подвижного объекта	m o	<u> </u>	15, 8,	- Дли объ	29, 17,	_	29, 2,		2, 8,	8, 10,		10, 14,		28, 27,	5, 34,	<u> </u>	6, 29,		35, 12,	- m ±		6, 2,			10, 35,					22, 21,	22,35,			2, 27,	29, 5,	26, 30,		26, 35, 35, 3	3, 1
02. Вес неподвижного	-		29, 34	10, 1,	38, 34	35, 30,	40, 28	5, 35,	15, 38 —	8, 10,	13, 29,	13, 10,	26, 39,	28, 2,	31, 35	2, 27,	4, 38 28, 19		34, 31	18, 19,	15, 19,	18, 19,	5, 8,	10, 15,	10, 20,	19, 6,	10, 28,		10, 1,	2, 19,	35, 22,	· .	6, 13,	2, 27,	15, 8 19, 15,	1, 10,	25, 28, 2	18, 19 24, 3 2, 26, 1, 28	8, 2
объекта 03. Длина подвижного объекта	8, 15,	-		29, 35	15, 17,	13, 2	7, 17,	14, 2	13, 4, 8	19, 35 17, 10,	,	29, 14 1, 8,	-	10, 27 8, 35,	19	19, 6 —	32, 22 10, 15	, 32	8, 35,	28, 1	18, 22 1, 35	28, 15 7, 2,	<u> </u>	35 1, 24		29, 35	10, 14,	28, 32,	10, 28,		1, 39 17, 15	1, 29,	15, 29,	28, 11 1, 28,	14, 15,	1, 19,	35, 1, 1	35 15, 3 17, 24, 14, 4	4, 3
04. Длина неподвижного	29, 34	35, 28,	-		4	17, 7,	4, 35	35, 8,	_	28, 10	1, 14,	10, 29	·	29, 34 15, 14,	_	1, 40,	19 3, 35,	3, 25	24	_	12, 8	35, 39 6, 28	23, 10 10, 28,	24, 26	30, 29,		29, 40 15, 29,			17, 24 1, 18	_	17 15, 17,	35, 4 2, 25	3	1, 16 1, 35	26, 24 1, 26	26, 24 2 26	26, 16 28, 2 — 30, 1	
объекта 05. Площадь подвижного	2, 17,	40, 29	14, 15,	 		10, 40	7, 14,	2, 14	29, 30,	19, 30,	35 10, 15,			28, 26	6, 3	35	38, 18 2, 15,		19, 32	_	19, 10,	15, 17,	24, 35 10, 35,	30, 26	14 26, 4	29, 30,	28 29, 9		10 2, 32	22, 33,	17, 2,	27 13, 1,	15, 17,	15, 13,	15, 30	14, 1,	2, 36, 1	7, 26	-+-
объекта Об. Площадь неподвижного	29, 4	30, 2,	18, 4	26, 7,			17, 4	_	4, 34	35, 2 1, 18,	36, 28 10, 15,		13, 39	40, 14 40	_	2, 10,	16 35, 39	19, 13	_	_	32, 18 17, 32	30, 26 17, 7.	2, 39 10, 14,	30, 16		5, 13 2, 18,	32, 35,	32, 3 26, 28,			18, 39 22, 1,	· ·	13, 16 16, 4	10, 1 16	15, 16		· ·	28, 23 34, 2 23 10, 1	
объекта 07. Объем подвижного	2, 26,	14, 18	1, 7,	9, 39	1, 7,	_		_	29, 4,	35, 36 15, 35,	36, 37 6, 35,	1, 15,	28, 10,	9, 14,	6, 35, 4	19, 30	38 34, 39	, 10, 13,	35	_	35, 6,	30 7, 15,	18, 39 36, 39,	2, 22	, .	-				39, 35 22, 21,		29, 1,	15, 13,	10	15, 29	36 26, 1	30, 18 29, 26, 3	17, 7 35, 34, 10, 6	_
объекта 08. Объем неподвижного	29, 40	35, 10,	35, 4	35, 8,	4, 17				38, 34	36, 37 2, 18,	36, 37	29, 4 7, 2, 35	1, 39	15, 7 9, 14,		35, 34,	10, 18	2		_			34, 10 10, 39,		34, 10	7 .		28	2, 16		40, 1		30, 12	1	_	1, 31		16, 24 2, 34	
объекта	8, 28,	19, 14	13, 14,	2, 14	29, 30,	_	7, 29,			37 13, 28,		35, 15,	35, 40		3, 19,	38	28, 30			_	19, 35,	14, 20,	35, 34 10, 13,		32, 18		16		25	19, 27	35, 4		32, 28,	3/1 2			26	10, 2	2
	13, 38		8		34		34		12.20	15, 19	38, 40	18, 34	1, 18	26, 14	35, 5	_	36, 2	19	35, 38		38, 2	19, 35	28, 38		2	29, 38	27, 28	1, 24	32, 35	35, 23	35, 21	8, 1	13, 12	28, 27	26	4, 34	27, 16	,	
10. Сила	8, 1, 37, 18	18, 13, 1, 28	9, 36	28, 10,	15		15, 9, 12, 37	-	13, 28, 15, 12			40, 34	35, 10, 21	14, 27	19, 2	_	35, 10 21		19, 17,	1, 16, 36, 37	19, 35, 18, 37	'	8, 35, 40, 5	_	36 1	18, 36	13, 21	-	37, 36		13, 3, 36, 24	-	3, 25	15, 1, 11	15, 17, 18, 20	10, 18	10, 19	2, 35 3, 28 35, 3	37
11. Напряжение, давление	10, 36, 37, 40	10, 18	35, 10, 36	14, 16	-	10. 15, 36, 37	10		6, 35, 36	36, 35, 21		15, 10	35, 33, 2, 40	9, 18, 3, 40	19, 3, 27	_	35, 39 19, 2		14, 24, 10, 37	_	10, 35, 14	2, 36, 25	10, 36, 3, 37	_	4 3	36	10, 13, 19, 35	25	·		2, 33, 27, 18	1, 35, 16	11	2	35	19, 1, 35	37	35, 24 10, 1 35, 3	37
12. Форма	8, 10, 29, 40	15, 10, 26, 3	29, 34, 5, 4	13, 14, 10, 7	5, 34, 4, 10	_	14, 4, 15, 22	7, 2, 35	35, 15, 34, 18	35, 10, 37, 40	34, 15, 10, 14		33, 1, 18, 4	30, 14, 10, 40	14, 26, 9, 25	_	22, 14 19, 32		2, 26, 34, 14	-	4, 6, 2	14	35, 29, 3, 5	_	14, 10, 34, 17		10, 40, 16	28, 32, 1		22, 1, 2, 35	35, 1		32, 15, 26	2, 13, 1	1, 15, 29	16, 29, 1, 28		15, 1, 17, 2 32 34, 1	
13. Устойчивость состава объекта	21, 35, 2, 39	26, 39, 1, 40	13, 15, 1. 28	37	2, 11, 13	39	28, 10, 19, 39	34, 28, 35, 40	33, 15, 28, 18	10, 35, 21, 16	2, 35, 40	22, 1, 18, 4		17, 9, 15	13, 27, 10, 35	39, 3, 35, 23	35, 1, 32	32, 3, 27, 15	13, 19	27, 4, 29, 18	32, 35, 27, 31	14, 2, 39, 6	2, 14, 30, 40	_		15, 32, 35	-	13	I	35, 24, 18, 30	35, 40, 27, 39		32, 35, 30		35, 30, 34, 2		35, 22, 1 39, 23	1, 8, 35 23, 3 40, 3	
14. Прочность	1, 8, 40, 15	40, 26, 27, 1	1, 15, 8, 35	15, 14, 28, 26		9, 40, 28	10, 15, 14, 7		8, 13, 26, 14	10, 18, 3, 14	10, 3, 18, 40	10, 30, 35, 40	13, 17, 35		27, 3, 26	_	30, 10 40	, 35, 19	19, 35, 10	35	10, 26, 35, 28	1	35, 28, 31, 40			29, 10, 27	11, 3	3, 27, 16			15, 35, 22, 2		32, 40, 28, 2	27, 11, 3	15, 3, 32	2, 13, 28	27, 3, 15, 40	15 29, 3 10, 1	
15. Время действия подвижного объекта	19, 5, 34, 31	-	2, 19, 9	-	3, 17, 19	_	10, 2, 19, 30	_	3, 35, 5	1	19, 3, 27	14, 26, 28, 25		27, 3, 10		_	19, 35 39		28, 6, 35, 18	_	19, 10, 35, 38		28, 27, 3, 18	10	20, 10, 3 28, 18		11, 2, 13		3, 27, 16, 40			27, 1, 4	12, 27	29, 10, 27	1, 35, 13	10, 4, 28, 15		5, 10 35, 1 14, 1	
16. Время действия неподвижного объекта	-	6, 27, 19, 16	-	1, 40, 35	_	_	_	35, 34, 38	_	_	_		39, 3, 35, 23	_	_		19, 18 36, 40		_	_	16	-	27, 16, 18, 38	10			34, 27, 6, 40	10, 26, 24	_	17, 1, 40, 33	22	35, 10	1	1	2	_	25, 34, 1 6, 35	I 20, 1	
17. Температура	36, 22, 6, 38	22, 35,	15, 19, 9	15. 19, 9	3, 35, 39, 18	35, 38	34, 39, 40, 18	35, 6, 4	2, 28, 36, 30	35, 10, 3, 21		14, 22, 19, 32		, ,	19, 13, 39	19, 18, 36, 40		32, 30, 21, 16	19, 15, 3, 17	_	2, 14, 17, 25		21, 36, 39, 31				19, 35, 3, 10	32, 19, 24		22, 33, 35, 2	22, 35, 2, 24	26, 27	26, 27	4, 10, 16	2, 18, 27	2, 17, 16		26, 2, 15, 2 19, 16 35	28, 17
18. Освещенность	19, 1,	2, 35,	19, 32, 16	<u> </u>	19. 32,	_	2, 13,	_	10, 13,	25, 19,					2, 19, 6	_	32, 35 19	,	32, 1,	32, 35, 1, 15		19, 16,		1, 6	-	1, 19	_	11, 15,			35, 19, 32, 39		28, 26,	15, 17, 13, 16	15, 1, 19	6, 32, 13	32, 15 2	2, 26, 2, 25 10 16	5, 18
19. Затраты энергии подвижным объектом	12, 18, 28, 31	-	12, 28	 	15, 19,	_	35, 13, 18	_	8, 15,	16, 26, 21, 2		12, 2, 29	19, 13, 17, 24	5, 19, 9, 35	28, 35, 6, 18	_	19, 24 3, 14	, 2, 15,		_	6, 19, 37, 18		35, 24, 18, 5	-	35, 38,		19, 21, 11, 27	3, 1, 32		1, 35, 6, 27	· ·			1, 15,	· .	2, 29,			28, 19
20. Затраты энергии неподвижным объектом		19, 9, 6, 27	-	†-	-	_	_	_	_	36, 37	_	_	27, 4, 29, 18	35	_	_	_	19, 2, 35, 32	-	_	-		28, 27, 18, 31	-	-	3, 35,	10, 36,	-	_	10, 2, 22, 37	19, 22,	1, 4	_	-	_	_	19, 35, 16, 25	— 1, 6	20
21. Мощность	8, 36, 38, 31	19, 26,	1, 10, 35, 37	 	19, 38	17, 32,		30, 6,	15, 35,	26, 2, 36, 35	22, 10, 35		35, 32,	26, 10, 28	19, 35, 10, 38	16	2, 14,	16, 6,	16, 6,	_		10, 35,	28, 37,	10, 19		1, 34,	19, 24,	32, 15,	32, 2	19, 22,	2, 35,	26, 10,	26, 35, 10	35, 2, 10, 34	19, 17, 34	20, 19, 30, 34	19, 35, 2	28, 2, 28, 3	35, 21
22. Потери энергии	15, 6,	17, 27 19, 6,	7, 2, 6,	6, 38, 7		17, 7,	7, 18,	7		36, 38	—		14, 2,	26	-	_	17, 25 19, 38	, 1, 13,	19, 37 —	_	3, 38	30		19, 10	10, 18,	7, 18,	26, 31 11, 10,	32	_	31, 2 21, 22,	21, 35,		35, 32,	· ·	_		35, 3, 2	2 28, 1	10, 22
23. Потери вещества	19, 28 35, 6,	18, 9 35, 6,		10, 28,			1, 29,	3, 39,	10, 13,						28, 27,		21, 36					35, 27,	2, 37	_	15, 18,				35, 10,		2, 22		32, 28,				15, 23 35, 18, 3		35, 23
24. Потери информации	23, 40	22, 32 10, 35,	10, 39	24	10, 31 30, 26	39, 31 30, 16	30, 36		28, 38	18, 40	37, 10 —	3, 5	30, 40	31, 40	3, 18 10	18, 38	39, 31 —	19	24, 5	12, 31	18, 38 10, 19	2, 31 19, 10	_		24, 26,	24, 28,	10, 28,	31, 28		30, 40 22, 10,	34, 29 10, 21,		2, 24	34, 27	2	28, 24	-, -	18 10, 2 35 13, 2	23, 24
25. Потери времени	35 10, 20,	5 10, 20,	15, 2,	30, 24,	28, 4,	10, 35,	2, 5,	35, 16,	_	10, 37,	37, 36,	4, 10,	35, 3,	29, 3,		28, 20,			35, 38,	1	35, 20,	10, 5,	35, 18,		., .				24, 26,	35, 18,		35, 28,	4, 28,	32, 1,	35, 28	6, 29	18, 28, 2	15 24, 28, —	- 25
26. Количество вещества	37, 35 35, 6,	<u> </u>	29 29, 14,	14, 5	5, 16 15, 14,	17, 4 2, 18,	34, 10 15, 20,	32, 18	35, 29,	36, 5 35, 14,	10, 36,	-		28, 18	28, 18	10, 16	21, 18 3, 17,	-		3, 35,	10, 6 35	18, 32 7, 18,	10, 39	28, 32		18, 16		28, 32		34 35, 33,	18, 39 3, 35,	34, 4 29, 1,	10, 34 35, 29,	10 2, 32,	15, 3,	3, 13,		35, 30 3, 35 13, 2	29, 26
27. Надежность	18, 31	18, 35 3, 10,	35, 18 15, 9,	15, 29,	29 17, 10,	40, 4 32, 35,	29 3, 10,	2, 35,	34, 28 21, 35,	3 8, 28,	14, 3 10, 24,	35, 1,		34, 10 11, 28	10, 40	31 34, 27,	39 3, 35,	11, 32,	1.0, 1.0	31 36, 23	21, 11,	25	<u> </u>	35 10, 28	18, 16 10, 30, 2	21, 28,	28, 40	32, 3,	11, 32,			35, 27	10, 25 27, 17,	· ·	29 13, 35,	27, 10 13, 35,	29, 18 27, 40, 1	3, 27 11, 13, 1, 35	_
28. Точность измерения	10, 40 32, 35,	8, 28 28, 35,	14, 4 28, 26,	28, 11	-	40, 4 26, 28,	14, 24 32, 13,	24	11, 28 28, 13,		35, 19 6, 28,		32, 35,	28. 6.	3, 25 28, 6,	6, 40 10, 26,	10 6, 19,	13 6, 1, 32	27, 19 3, 6, 32	_	26, 31 3, 6, 32	35 26, 32,	29, 39 10, 16,	_		40, 3 2, 6, 32	5. 11.	11, 23		2, 40	40, 26 3, 33,	6, 35,	40 1, 13,	1, 32,	8, 24 13, 35,	1 27, 35,		27 29, 3 28, 2, 10, 3	_
29. Точность изготовления	26, 28	25, 26	5, 16	3, 16	32, 3	32, 3	6	25, 10,	32, 24		32	32		32	32	24	28, 24		32, 2		32, 2	27	31, 28		28, 32		1, 23 11, 32,	_		22, 26		25, 18	17, 34		2		32, 28 1	10, 34 28, 3	
	13, 18		29, 37	10	29, 32	18, 36 27, 2,	2	35	32	34, 36		40			40 22, 15,							2	10, 24		28, 18		1	28, 33,		10, 36	34, 26	24.25	35, 23			18	1	18, 23 32, 3	
30. Вредные факторы, действующие на объект	_	13, 24	17, 1, 39, 4		33, 28	39, 35			35, 28	39, 18	37	3, 35		37, 1	33, 28	40, 33	<u> </u>	32, 13	6, 27		31, 2	35, 2	19, 40		34 2	29, 31	2, 40	23, 26	10, 18		_	2	28, 39	2	22, 31	29, 40	29, 40 3	34 13, 2	24
31. Вредные факторы самого объекта	19, 22, 15, 39	1, 39	17, 15, 16, 22		17, 2, 18, 39	22, 1, 40	17, 2, 40	35, 4	35, 28, 3, 23	1, 40	27, 18		35, 40, 27, 39	22, 2	33, 31	21, 39, 16, 22	2, 24	39, 32	2, 35, 6	18	2, 35, 18	21, 35, 2, 22	34	10, 21, 29	3	39, 1	40, 39	26	4, 17, 34, 26	_		_	_	_	_	31	2, 21, 2 27, 1	18, 3	
32. Удобство изготовления	28, 29, 15, 16	36, 13	1, 29, 13, 17	15, 17, 27	13, 1, 26, 12	16, 40	13, 29, 1, 40		35, 13, 8, 1		35, 19, 1, 37	1, 28, 13, 27	11, 13, 1	10, 32	27, 1, 4	35, 16	18	27, 1	28, 26, 27, 1		27, 1, 12, 24	19, 35	15, 34, 33	32, 24, 18, 16	34, 4	35, 23, 1, 24	_	1, 35, 12, 18	_	24, 2	_		2, 5, 13, 16	35, 1, 11, 9	2, 13, 15	27, 26, 1	6, 28, 11, 1	3, 28, 1 35, 1 10, 2	28
33. Удобство эксплуатации	25, 2, 13, 15	6, 13, 1, 25	1, 17, 13, 12	_	1. 17, 13, 16	-	35, 15	39, 31	34	28, 13, 35	12		30	32, 40, 3, 28	· .	1, 16, 25	26, 27 13	1, 24	24	_	35, 34, 2, 10	2, 19, 13	2, 24	4, 10, 27, 22	10, 34		8, 40	2, 34	35, 23	2, 25, 28, 39	_	2. 5, 12		12, 26, 1, 32	15, 34, 1, 16	32, 26, 12, 17	1	1, 34, 15, 1 12, 3 28	
34. Удобство ремонта	2, 27, 35, 11	2, 27, 35, 11	1, 28, 10, 25	3, 18, 31	15, 13, 32	16, 25	25, 2, 35, 11	1	34, 9	1, 11, 10	13	1, 13, 2, 4	2, 35	1, 11, 2, 9	11, 29, 28, 27	1	4, 10	15, 1, 13	15, 1, 28, 16	_	15, 10, 32, 2	1	2, 35, 34, 27	_			11, 10, 1, 16	10, 2, 13	· 1	35, 10, 2, 16	_	1, 35, 11, 10	1, 12, 26, 15		7, 1, 4, 16	35, 1, 13, 11		34, 35, 1, 32 7, 13 10	2, 34
35. Адаптация, универсальность	1, 6, 15, 8	19, 15, 29, 16			35, 30. 29, 7	15, 16	15, 35, 29		35, 10, 14	15, 17, 20		15, 37, 1, 8		35, 3, 32, 6				6, 22, 26, 1			19, 1, 29		15, 10, 2, 13		35, 28 3 1		35, 13, 8, 24			35, 11, 32, 31		1, 13, 31	15, 34, 1, 16			15, 29, 37, 28		27, 34, 35, 2 35 6, 37	
36. Сложность устройства	26, 30, 34, 36				14, 1, 13, 16		34, 26, 6	1, 16	34, 10, 28	26, 16	19, 1, 35		2, 22, 17, 19		10, 4, 28, 15	_	2, 17, 13	24, 17, 13	27, 2, 29, 28			10. 35, 13, 2		_	6, 29	13, 3, 27, 10		2, 26, 10, 34		22, 19, 29, 40	19, 1	27, 26, 1, 13		1, 13	29, 15, 28, 37		15, 10, 1 37, 28 2	15, 1, 12, 1 24 28	7, 36
37. Сложность контроля и измерения		6, 13, 28, 1			2, 13, 18, 17	2, 39, 30, 16	29, 1, 4, 16	2, 18, 26, 31	3, 4, 16, 35	36, 28, 40, 19	35, 36, 37, 32	27, 13, 1, 39	11, 22, 39, 30	27, 3, 15, 28	19, 29, 25, 39	25, 34, 6, 35	3, 27, 35, 16	2, 24, 26	35, 38						18, 28, 3 32, 9					22, 19, 29, 28	2, 21	5, 28, 11, 29	2, 5	12, 26	1, 15	15, 10, 37, 28	3	34, 21 35, 1	8 37
38. Степень автоматизации	28, 26,		14, 13,	23	17, 14, 13	-	35, 13, 16	_		ļ	13, 35							8, 32, 19	2, 32, 13			+			24, 28, 3 35, 30	35, 13	11, 27,			2, 33	2	, ,	1, 12, 34, 3	, ,	1 ' '	15, 24, 10	34, 27, 25	5, 12 35, 2	2, 38 26
39. Производительность	35, 26,	28, 27,	18, 4,	30, 7,	10, 26, 34, 31			35, 37, 10, 2	_	28, 15, 10, 36	10, 37,	14, 10,	35, 3, 22, 30	29, 28, 10. 18	35, 10, 2, 18	20, 10, 16, 38	35, 21 28 10	, 26, 17, 19, 1	35, 10, 38, 19	1		28, 10, 29, 35	28, 10,		, i	35, 38	1, 35,	1, 10,	32, 1,			35, 28,	1, 28,	1, 32,	1, 35,	12, 17,	35, 18, 5 27, 2 3	5, 12,	39
	24, 3/	13, 3	28, 38	14, 26	34, 31	17, 7	34, 10	10, 2		10, 36	14	o4, 4U	22, 39	ιυ, Ιδ	۷, ۱۵	10, 38	28, 10	19, 1	ا ,٥٥,		10	∠9, 35	oo, 23	25			ιυ, 38	34, 28	10, IU	15, 24	16, 39	z, z4	7, 19	10, 25	20, 3/	∠ŏ, ∠4	21,2	۵, ۷۵	